

FUNCTIONAL DESIGN REPORT

MASSACHUSETTS AVENUE (Route 2A/3)

Arlington, Massachusetts

Prepared for the
Town of Arlington

Prepared by
Fay, Spofford & Thorndike, LLC
Engineers • Planners • Scientists

Burlington, Massachusetts

November 2010

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FOREWORD

Fay, Spofford & Thorndike (FST) has completed this Functional Design Report (FDR) and 25% design submission for the Town of Arlington and has evaluated traffic operations and safety conditions at a number of intersections along the corridor. This phase of the project extends from Pond Lane on the westerly end, to Alewife Brook Parkway (Route 16) in the City of Cambridge on the easterly end.

The Massachusetts Avenue Study Corridor is located in East Arlington, and includes the East Arlington Business District and intersects a total of thirty-eight side streets, of which six (6) key locations have been studied for the traffic analysis contained in this FDR.

Our overview of existing and future No Build conditions, identifies operational and safety deficiencies that will occur along the corridor if improvements are not undertaken. In this FDR, FST has recommended improvement strategies and mitigation measures to address these deficiencies. These improvement strategies and mitigation measures have been developed following a series of design coordination meetings with MassDOT, the Town of Arlington and other various stakeholders. Realizing the existing roadway width of Massachusetts Avenue is more than sufficient to safely and efficiently accommodate projected future traffic volumes, the Town of Arlington, through its Planning and Community Development Department, is seeking to enhance the travel experience within the corridor for all of its users - pedestrians, bicyclists, motorists and transit users. The results of the various traffic analyses to date have indicated surplus pavement exists within the Massachusetts Avenue corridor, thus providing a unique and exciting opportunity to reallocate the public space within this “Great Street” to better serve adjacent property and business owners as well as the surrounding East Arlington community. As a result, the *revised* 25% design for Massachusetts Avenue is a multimodal plan and our recommendations are designed to safely and efficiently accommodate all modes of travel, to improve mobility and to enhance the visual and streetscape experience in an effort to promote and increase business patronage along the corridor through improved vehicular, pedestrian, bicycle and transit accommodation.

As the operation of the corridor is reviewed as a whole, safety considerations and mobility for all users become paramount. To realize this objective, a balance of the various design components associated with each individual mode of travel must be achieved. In the process of developing the desirable cross section for the corridor, trade-offs may occur with each roadway user. For example, although a reduction in the number of travel lanes is proposed along portions of the corridor, resulting in longer queues at some selected locations, additional corridor improvements to traffic signalization and equipment, the provision of dedicated left turn lanes and the introduction of new elements such as emergency pre-emption and coordination of closely spaced traffic signals, results in improved overall operations along the corridor leading to Levels of Service that, in most instances, are equal to or better than future No Build conditions at the key Study Area intersections. Other recommended corridor improvements include new and wider sidewalks, shorter crosswalks, pedestrian refuge islands, center medians or planting strips, dedicated bicycle lanes, new and upgraded traffic signals, parking provisions, period lighting, landscaping treatments and improved signage. There is evidence to suggest the efforts to attract

more pedestrians and bicyclists to the East Arlington downtown area will have a positive economic impact on businesses.

In summary, our recommended improvements include a *Context Sensitive Design* and are in accordance with Town of Arlington project objectives and MassDOT's *Project Development and Design Guide*. Specific improvements consist of roadway reconstruction to add dedicated turn lanes; the installation and/or upgrade of traffic signals; channelization; traffic calming measures such as neck downs; sidewalk modifications; installation of new crosswalks; pedestrian scale lighting; streetscape amenities and drainage improvements. The design intent of this project, on behalf of the Town of Arlington, is to develop a multimodal corridor plan that will address the needs of all users and establish a strong example of enhanced transportation mobility in the Commonwealth of Massachusetts.

INTRODUCTION

1.1 Overview

Under the direction of the Planning and Community Development Department in the Town of Arlington, Fay, Spofford & Thorndike (FST) has been retained by the Town to evaluate traffic operations and safety conditions at a number of intersections along the Study Area corridor, which is defined for this phase of the project as extending from Pond Lane on the west to Alewife Brook Parkway (Route 16) in the City of Cambridge on the east end. The study corridor is primarily located in East Arlington (See Figure 1), and includes a total of 38 intersecting side streets, of which six (6) key locations are to be included in the traffic analysis documented in this report. These Study Area intersections are:

Signalized:

- Massachusetts Avenue/Foster Street/Linwood Street
- Massachusetts Avenue/Lake Street/Winter Street
- Massachusetts Avenue/Teel Street/Thorndike Street
- Massachusetts Avenue/Alewife Brook Parkway (Cambridge)

Unsignalized:

- Massachusetts Avenue/Bates Road/Marion Road
- Massachusetts Avenue/Orvis Road/Grafton Street

This report presents the findings of FST's study of the existing conditions, identifies operational and safety deficiencies and recommends improvement strategies to address these deficiencies. Our recommended improvements consist of roadway reconstruction to add dedicated turn lanes; the installation and/or upgrade of traffic signals, channelization, traffic calming measures, and sidewalk reconstruction; installation of new crosswalks, sidewalks and sidewalk neckdowns, pedestrian scale lighting, streetscape amenities and drainage improvements. No property acquisitions are anticipated as a result of these improvement measures; however, one permanent easement is required for sidewalk reconstruction.

1.2 Data Collection and Traffic Projections

In order to evaluate existing and future traffic operations of the Massachusetts Avenue project intersections, a traffic count program was conducted during the week of October 20, 2008. This data collection program consisted of vehicle *Turning Movement Counts* (TMC), and vehicle *Automatic Traffic Recorder* (ATR) counts, as well as pedestrian and bicycle counts for the following time periods for both weekdays and Saturday, respectively:

TMCs

4 Hour (7:00 AM - 9:00 AM and 4:00 PM - 6:00 PM) weekday TMCs were conducted at the following locations:

- Massachusetts Avenue/Foster Street /Linwood Street (signalized)
- Massachusetts Avenue/Bates Road/Marion Road



Match Line A-A



Match Line A-A




Schematic Diagram:
Not to Scale

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Figure 1
Study Area Corridor

Massachusetts Avenue
Town of Arlington, Massachusetts
November 2010

 Signalized Intersection

- Massachusetts Avenue/Orvis Road /Grafton Street
- Massachusetts Avenue/Lake Street /Winter Street (signalized)
- Massachusetts Avenue/Teel Street/Thorndike Street (signalized)
- Massachusetts Avenue/Alewife Brook Parkway (signalized) in Cambridge

2 Hour (11:30 AM to 1:30 PM) Saturday Mid-Day TMCs were conducted at the following locations:

- Massachusetts Avenue/Foster Street /Linwood Street
- Massachusetts Avenue/Lake Street /Winter Street
- Massachusetts Avenue/Teel Street/Thorndike Street

The 2 Hour TMCs were used to develop an understanding of traffic fluctuations on a Saturday mid-day peak period compared to a typical commuter weekday. These Saturday counts were conducted on October 18, 2008.

Using traffic count data collected during the above peak periods, the resulting traffic volumes entering the key Study Area intersections are presented below in Table 1 in order of total volume.

TABLE 1 – Existing 2008 Traffic Volume Entering Area Intersections

Intersection	AM Peak Hour (vph)	PM Peak Period (vph)
Mass Ave./Alewife Brook Pkwy.	3,716	3,545
Mass Ave./Lake St/Winter St	2,243	2,007
Mass Ave./Bates Rd/Marion Rd	1,945	1,912
Mass Ave./Grafton St/Orvis Rd	1,917	1,879
Mass Ave./Foster St/Linwood St	1,692	1,714
Mass Ave./Thorndike St/Teel St	1,633	1,579

vph = vehicles per hour entering intersection

While the above data reflects traffic volumes for weekday peak hours, it was determined from the collection of Saturday mid-day traffic data that Saturday traffic volumes along Mass Avenue typically range 13% to 32% lower than weekday peak hours, thus weekday traffic volumes were used in the traffic analysis contained herein.

ATRs

48 Hour ATR counts were conducted at the following locations:

- Massachusetts Avenue, east and west of Linwood Street
- Foster Street, north of Massachusetts Avenue
- Massachusetts Avenue, east and west of Lake Street
- Lake Street, south of Massachusetts Avenue
- Massachusetts Avenue east and west of Thorndike Street
- Thorndike Street, south of Massachusetts Avenue
- Teel Street, north of Massachusetts Avenue

A graphic of the ATR count locations is shown in Figure 2. Based on the traffic counts, project-wide peak hours were identified and used for the analysis of all six (6) key Study Area intersections. It was determined that the morning peak hour for the Massachusetts Avenue corridor, primarily a function of the morning eastbound commute into Cambridge and Boston, occurs between 7:30 AM and 8:30 AM, and the evening peak hour occurs between 5:00 PM and 6:00 PM. The Saturday mid-day peak hour varies but, generally, occurs from 11:45 AM to 12:45 PM. The ATR traffic volume summary is presented below in Table 2.

TABLE 2 – Existing 2008 ATR Traffic Volume Summary

ATR Location	Average Daily Traffic (VPD)	Peak Hour (vph)			
		AM	PM	Sat.	K (%)
Foster St, North of Mass Ave.	830	117	80	80	11.8
Mass Ave., west of Foster St/Linwood St	19,500	1,660	1,701	1,560	8.6
Mass Ave., east of Foster St/Linwood St	22,000	1,914	1,854	1,570	8.6
Lake St., south of Mass Ave.	9,000	812	776	569	8.8
Mass Ave., west of Lake St/Winter St	19,700	1,249	1,545	1,630	7.1
Mass Ave., east of Lake St/Winter St	15,900	1,114	1,246	1,254	7.0
Mass Ave., west of Thorndike St/Teel St	14,800	1,369	1,677	1,206	10.1
Mass Ave., east of Thorndike St/Teel St	18,500	1,384	1,581	1,202	7.9
Teel St., north of Mass Ave.	440	44	40	50	9.6
Thorndike St., south of Mass Ave.	490	51	44	41	9.7

VPD=vehicles per day; vph=vehicles per hour; ATR=automatic traffic recorder; k = percentage of peak hour volume versus ADT

In reviewing both the historical traffic data secured from previous engineering studies and the more recent traffic data obtained during peak periods along Massachusetts Avenue, traffic volumes from Lake Street to Alewife Brook Parkway have dropped 2% to 4% from 2001 to 2008, and west of Lake Street traffic volumes have remained static.

To determine the effects of seasonality on the recently collected traffic count data, the MassDOT traffic volume database was reviewed. MassDOT permanent traffic counting Station 4798 on Route 2 in Lexington, and Station 8099 on I-93 in Medford, as well the MassDOT yearly published weekday seasonal factors were reviewed to determine if seasonal adjustments to the raw traffic data was necessary. Based on this information, it was determined that the October 2008 traffic volumes were above average and therefore, would not be seasonally adjusted. The Existing 2008 AM, PM, and Saturday mid-day peak hour traffic volumes are shown in Figure 3.

In order to evaluate the ability of the Massachusetts Avenue intersections to properly function with anticipated traffic growth, it was necessary to project future traffic volumes. For this particular project, both a 10-year **and** 20-year planning horizon was selected based on consistency with MassDOT's design criteria for *Functional Design Reports*, the *Project Development & Design Guide* and by following generally accepted transportation planning principles. Future traffic volumes were developed based on an annual background growth rate and an estimation of traffic generated by planned or future developments within close proximity to the Study Area. A background growth rate was researched in consultation with the traffic-

modeling group at the Central Transportation Planning Staff (CTPS) and a rate of 0.3% per year was determined to be representative of anticipated long term traffic growth in the Massachusetts Avenue corridor. Additionally, we reviewed historic MassDOT traffic volume data, various traffic studies completed in the immediate region, and planning and engineering studies completed along Massachusetts Avenue for the Town of Arlington in determining an annual growth rate for our traffic analysis. Based on our review and assessment of all available information, we chose to use a growth rate of 0.5% per year to be conservative, given that the surrounding area is substantially built-out and densely populated. A growth rate of 0.5% per year would offer some allowance for any incidental projects that might occur within both the 10-year and 20-year horizons.

Based on our initial conversations and follow-up discussions with Town of Arlington Planning and Community Development officials we have identified several planned projects or future developments that, when completed, could potentially add additional vehicle trips to the Massachusetts Avenue corridor. These planned or future projects include the MBTA Green Line Extension into Somerville and the Medford Hillside area; the City of Cambridge Discovery Park project; the Mill Street Residential & Retail Development, the Symmes Hospital Redevelopment and the CVS development projects in Arlington; and the Belmont Uplands project as part of the McLean Redevelopment project in Belmont. To determine if further adjustments to the above mentioned growth rate are necessary we reviewed trip generation information and available traffic analyses related to these planned and future projects.

In the planning and preliminary design stages is the extension of the MBTA Green Line into Somerville and the Medford Hillside area. A project terminus is currently planned at College Avenue, Medford near Tufts University; however, a future terminus may extend as far as Alewife Brook Parkway (Route 16) in Medford. Terminus stations are currently planned to accommodate limited drop-off/pick-up activities with no provisions for parking; thus, the majority of users are expected to originate from within the surrounding neighborhoods. In any event, even if the Green Line Extension project were to generate additional vehicle trips these trips would most likely decrease traffic volumes along Massachusetts Avenue rather than increase traffic volumes since the terminus stations are located well north of Massachusetts Avenue and the resulting travel patterns would draw traffic away from the study corridor.

The Discovery Park development project along Acorn Park Road in the City of Cambridge is expected to generate approximately 2,000 new vehicle trips daily, only some of which would travel through or along the project corridor. Based on traffic analyses and trip generation models prepared by the respective project proponents of the Mill Street Residential & Retail Development, the Symmes Hospital Development and the CVS development projects in the Town of Arlington an insignificant number of additional daily vehicle trips are anticipated along the section of Massachusetts Avenue located within the project Study Area. And finally, the Belmont Uplands Project in the McLean District of Belmont is expected to generate additional daily vehicle trips as a result of this three-phase project that includes multi-unit residential as well as office & research developments.



Match Line A-A



Match Line A-A

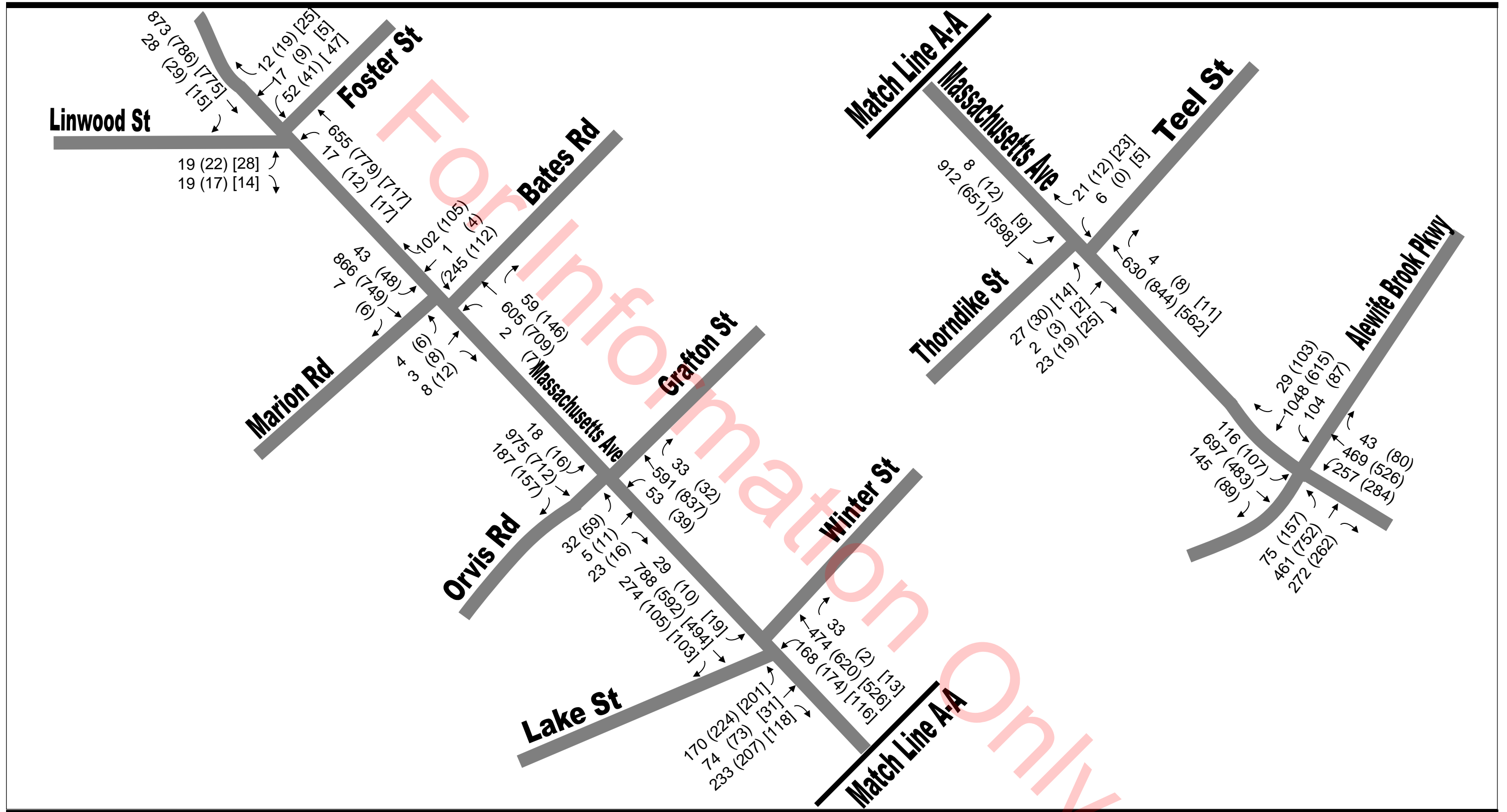


Schematic Diagram:
Not to Scale

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Figure 2
Traffic Count Locations

Massachusetts Avenue
Town of Arlington, Massachusetts
November 2010



Schematic Diagram:
Not to Scale

Fay, Spofford & Thorndike, LLC
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Massachusetts Avenue
Town of Arlington, Massachusetts

AM Peak Hour: 7:30 – 8:30
PM Peak Hour: 5:00 – 6:00
Sat Peak Hour: 11:45 – 12:45
Data Collected in October 2008
November 2010

FST has reviewed all related traffic impact assessments and trip generation estimates associated with these planned and future projects to determine if our growth rate projection for the Massachusetts Avenue project needed further adjustment. Reference is made to a Technical Memorandum included in the Appendix of this FDR, which specifically examines trip generation data for planned or future projects within the surrounding area, including several local Arlington projects and discusses the need for adjustments beyond the 0.5% background growth rate. This background growth rate was applied to the 2008 traffic volumes to produce the projected 2018 and 2028 peak hour traffic volumes, respectively. These future traffic volumes, shown in Figures 4 and 5 respectively, form the basis of our traffic analyses of the six (6) key intersections along Massachusetts Avenue.

Pedestrian Activity

In addition to the vehicular traffic counts, pedestrian activity was recorded at the study area intersections. Table 3, below, summarizes the total pedestrian activity at each study area intersection. It is noted that the highest volume of pedestrian activity is in the primary business district in the area of Lake Street from Orvis Road to Milton Street. A graphic depicting these pedestrian crossings is shown in Figure 6.

TABLE 3 – Existing 2008 Total Pedestrian Crossings at Area Intersections

Intersection	AM Peak Hour (pph)	PM Peak Period (pph)
Mass Ave./Alewife Brook Pkwy.	71	54
Mass Ave./Lake St/Winter St	132	95
Mass Ave./Bates Rd/Marion Rd	9	38
Mass Ave./Grafton St/Orvis Rd	57	54
Mass Ave./Foster St/Linwood St	49	55
Mass Ave./Thorndike St/Teel St	45	44

pph = pedestrians per hour

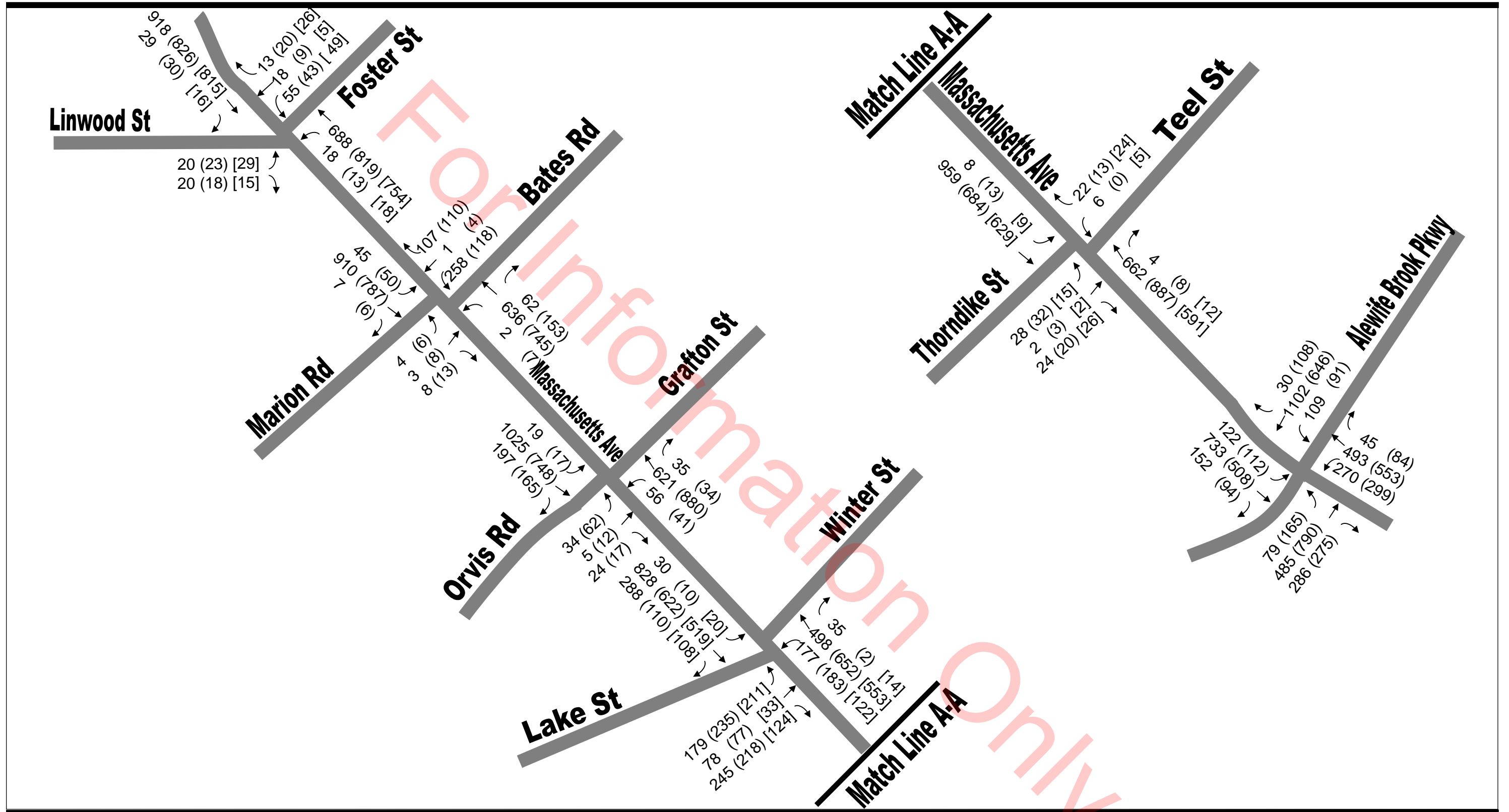
Bicycle Activity

Besides traffic and pedestrian activity, bicycle activity was also recorded at study area intersections during peak hours of operation. The bicycle patterns displayed a distinct commuter pattern, with the heavier flows eastbound in the morning peak period and westbound in the evening peak period. The total peak hour bicycle volumes entering each study area intersection are summarized in Table 4 below. A graphic depicting this bicycle activity is shown in Figure 7.

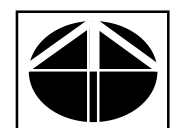
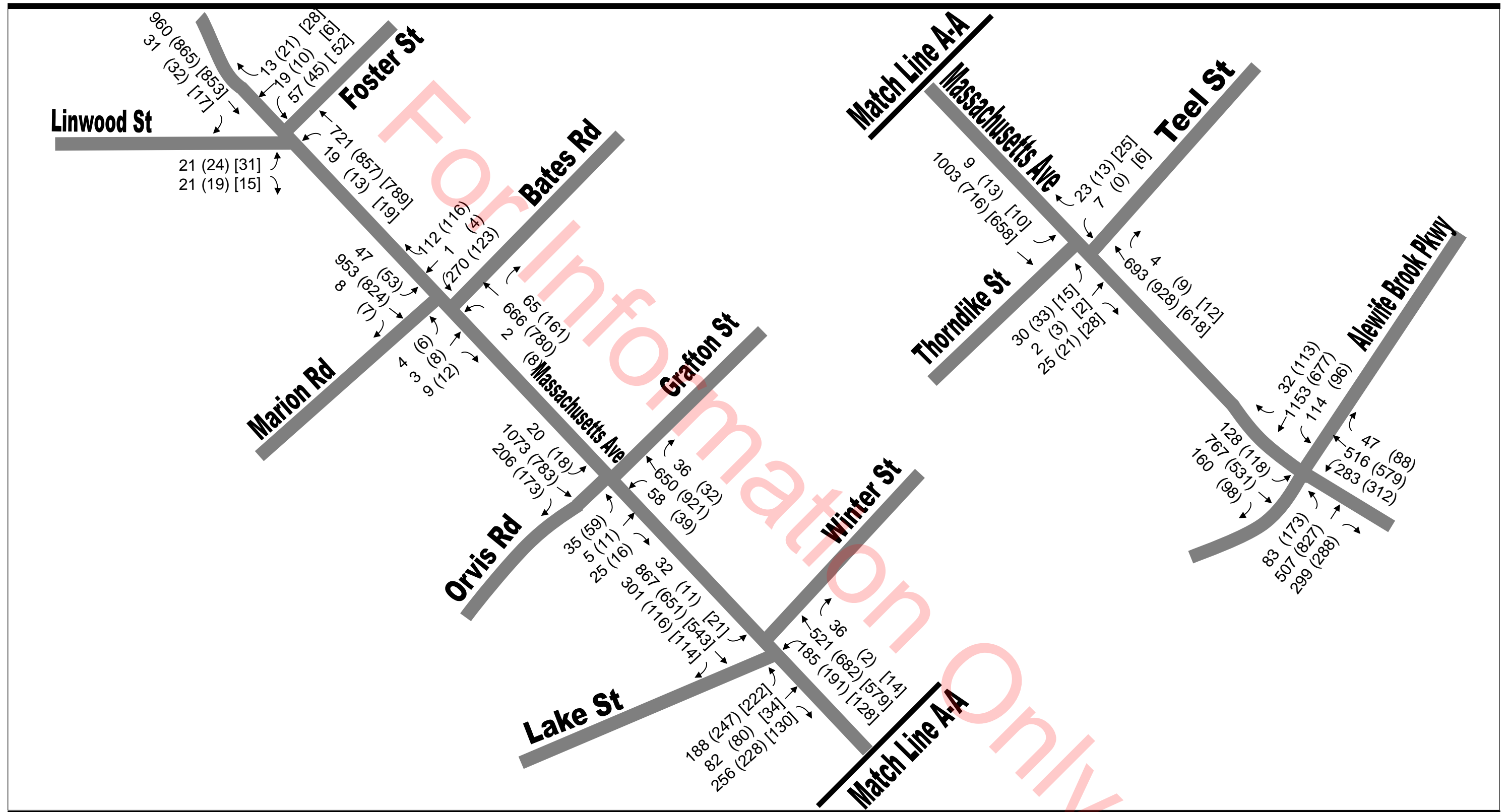
TABLE 4 – Existing 2008 Bicycle Volumes Entering Area Intersections

Intersection	AM Peak Hour (bph)	PM Peak Period (bph)
Mass Ave./Alewife Brook Pkwy.	62	38
Mass Ave./Lake St/Winter St	58	35
Mass Ave./Bates Rd/Marion Rd	48	39
Mass Ave./Grafton St/Orvis Rd	59	42
Mass Ave./Foster St/Linwood St	51	34
Mass Ave./Thorndike St/Teel St	69	40

bph=bicycles per hour entering intersection



Schematic Diagram:
 Not to Scale

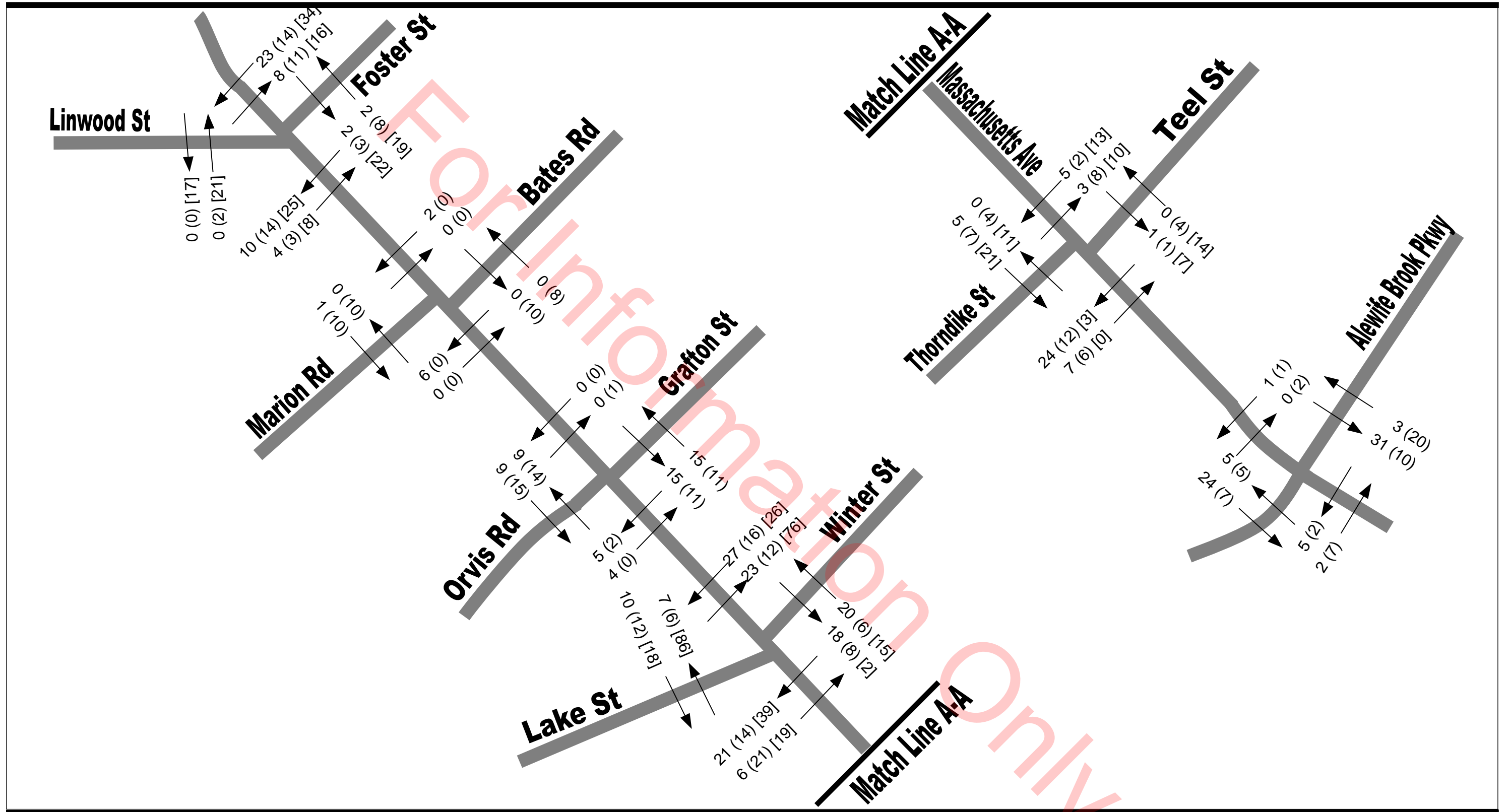


Schematic Diagram:
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Figure 5
2028 AM (PM) [Saturday Mid-day]
Peak Hour Traffic Volumes

Massachusetts Avenue
Town of Arlington, Massachusetts
November 2010



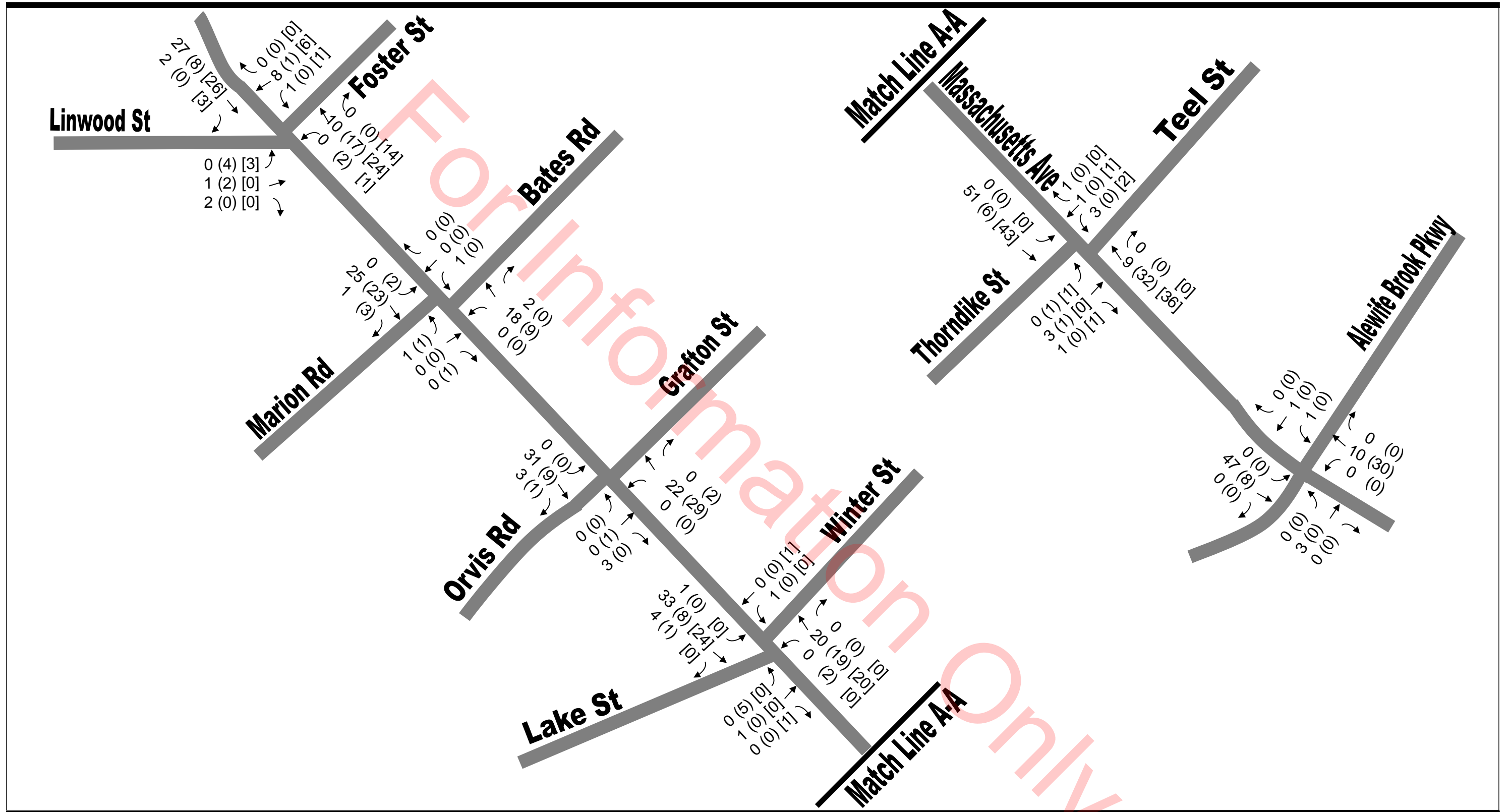
Schematic Diagram:
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Figure 6
2008 AM (PM) [Saturday Mid-day]
Peak Hour Pedestrian Volumes

Massachusetts Avenue
Town of Arlington, Massachusetts

AM Peak Hour: 7:30 – 8:30
PM Peak Hour: 5:00 – 6:00
Sat Peak Hour: 11:45 – 12:45
Data Collected in October 2008
November 2010



Schematic Diagram:
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Figure 7
2008 AM (PM) [Saturday Mid-day]
Peak Hour Bicyclist Volumes

Massachusetts Avenue
Town of Arlington, Massachusetts

AM Peak Hour: 7:30 – 8:30
PM Peak Hour: 5:00 – 6:00
Sat Peak Hour: 11:45 – 12:45
Data Collected in October 2008
November 2010

Supplemental Traffic Count Program

At the request of the Town of Arlington, and in response to concerns from local residents that the initial counts were not representative of average conditions, FST conducted a supplemental traffic count program in May 2009. Traffic volume data was collected at the following intersection to account for traffic related to spring sports at the nearby athletic field and at the selected roadway links listed below:

TMC's

- Massachusetts Avenue/Foster Street /Linwood Street (weekday 4-6 & Saturday 11-1PM)

ATR's

- Foster Street, north of Massachusetts Avenue (7 days)
- Linwood, south of Massachusetts Avenue (7 days)
- Massachusetts Avenue, east and west of Foster Street /Linwood Street (7 days)
- Bates Road, north of Massachusetts Avenue (7 days)
- Massachusetts Avenue, east of Thorndike Street/Teel Street (7 days)

ATR Volume Comparison

The traffic volumes presented in Table 5 below provide a comparison of the two separate count periods.

TABLE 5– October 2008 and May 2009 Daily Traffic Volume Comparison

ATR Location	Oct. 2008 Average Daily Traffic (VPD)	May 2009 Average Daily Traffic (VPD)	Percent Difference (2008 to 2009)
Foster St, North of Mass Ave.	830	810	-2%
Linwood St, south of Mass Ave	NR	1,005	-
Mass Ave., west of Foster St/Linwood St	19,500	21,300	+9%
Mass Ave., east of Foster St/Linwood St	22,000	21,500	-2%
Bates Rd, north of Mass Ave	NR	4,520	-
Mass Ave., east of Thorndike St/Teel St	18,500	20,000	+8%

VPD=vehicles per day; ATR=automatic traffic recorder; NR = not recorded

In reviewing the above data, it can be seen that the differences in daily traffic volumes recorded by the two count programs ranges between -2% and 9% from 2008 to 2009. This variation is within the limits for daily fluctuations in traffic volumes and an indication that the May 2009 volumes are comparable to the October 2008 data. In reviewing MassDOT's permanent traffic counting station data in the nearby communities of Medford and Lexington, both the October 2008 and May 2009 data are higher than the annual regional averages and therefore, do not require seasonal adjustments. Consequently, the October 2008 traffic data was determined to be representative of current traffic flow within the study area and is subsequently used as existing base data throughout the traffic analysis presented in this FDR.

TMC Comparison

A sample comparison of the traffic, pedestrian, and bicycle data from October 2008 and May 2009 at the Mass Ave/Foster Street/Linwood Street intersection is included in Tables 6-8 below.

TABLE 6 – Comparison of Total Vehicles Entering Mass Ave/Foster St/Linwood St Intersection+

Time Period	October 2008	May 2009	Percent Difference (2008 to 2009)
Weekday 5-6 PM	1,714 vph	1,715 vph	0
Saturday 11:30AM – 12:30 PM	1,643 vph	1,625 vph	-1%

+Sum of traffic entering intersection from all approaches for the peak hour; vph = vehicles per hour

TABLE 7 – Comparison of Total Pedestrians at Mass Ave/Foster St/Linwood St Intersection+

Time Period	October 2008	May 2009	Percent Difference (2008 to 2009)
Weekday 5-6 PM	55 pph (42)	90 pph (43)	+64%
Saturday 11:30AM – 12:30 PM	162 pph (83)	110 pph (80)	-32%

+Sum of pedestrians crossing intersection at all approaches for the peak hour; pph = pedestrians per hour; (xx) = Pedestrians crossing Massachusetts Ave during the peak hour

TABLE 8 – Comparison of Total Bicycles at Mass Ave/Foster St/Linwood St Intersection+

Time Period	October 2008	May 2009	Percent Difference (2008 to 2009)
Weekday 5-6 PM	34 bph	99 bph	+191%
Saturday 11:30AM – 12:30 PM	78 bph	63 bph	-19%

+Sum of bicycles entering intersection from all approaches for peak hour; bph = bicycles per hour

The data above essentially indicates there was no significant difference in the total number of vehicles entering the Mass Ave/Linwood St/Foster St intersection from the October 2008 data to the May 2009 data in both the weekday PM and Saturday mid-day peak hour periods. The pedestrian volumes are higher in May 2009 during the weekday, but lower on Saturday compared to the October 2008 data. Bicycle volumes are considerably higher during the weekday May 2009 period, likely due to spring conditions and warmer weather, which generates an increase in bicycle commuter travel patterns..

Side Street ATRs

In response to continued concerns and requests from local residents of the East Arlington community that **all** side street traffic along the Massachusetts Avenue study corridor be counted, FST conducted a second supplemental traffic count program and speed study in May 2010. As authorized by Town of Arlington officials and approved by MassDOT representatives, 48-hour

ATR traffic count data was obtained along the following twenty six (26) selected side streets intersecting Massachusetts Avenue:

- Bates Road, north of Massachusetts Avenue
- Broadway, west of Grafton Street
- Broadway, east of Marathon Street
- Brooks Avenue, south of Lake Street
- Chandler Street, west of Herbert Road
- Cleveland Street, south of Broadway
- Egerton Street, north of Herbert Road
- Everett Street, south of Broadway
- Fairmont Street, north of Herbert Road
- Foster Street, north of Massachusetts Avenue
- Grafton Street, south of Broadway
- Harlow Street, south of Broadway
- Herbert Road, south of Lake Street
- Lafayette Street, south of Massachusetts Avenue
- Lake Street, west of Freeman Street
- Marathon Street, south of Broadway
- Massachusetts Avenue, east of Thorndike Street
- Massachusetts Avenue, west of Foster Street
- Melrose Street, south of Massachusetts Avenue
- Milton Street, south of Massachusetts Avenue
- Orvis Road, south of Massachusetts Avenue
- Oxford Street, south of Broadway
- River Street, south of University Road
- Tufts Street, south of Broadway
- Varnum Street, south of Massachusetts Avenue
- Winter Street, south of Broadway

Today, primarily due to delays and inefficiencies of the Lake Street/Brooks Avenue intersection, together with uncontrolled operations at the nearby Minuteman Bike Trail, substantial queuing results along the Lake Street corridor which, in turn, leads to local traffic diversions and a certain amount of “cut-through” traffic on neighborhood streets that would otherwise remain on the primary travel routes. The collection of these side street traffic volumes, summarized in Table 10, provide useful baseline data to assess the potential impact of the project, if any, relative to these traffic diversions and “cut through” driving patterns. It is anticipated, however, that improved traffic operations at the various signalized intersections along the Massachusetts Avenue corridor will have a beneficial impact on overall traffic flow and driving habits and, thus, help to reduce traffic diversions.

1.3 Level of Service Criteria

Level of Service (LOS), an expression of the quality of traffic flow, is a commonly used and accepted measure of effectiveness for peak hour traffic operating conditions. It takes into account such factors as automobile and truck volumes, roadway width, speed, grades, parking restrictions, pedestrian activity, and traffic control devices.

LOS is designated in a range from Level “A”, which is the optimal condition where roadway-operating conditions are at their best to Level “F”, which indicates severely congested traffic conditions. Levels “A” through “D” are typically associated with acceptable levels of peak hour traffic operation, with LOS “D” marking the boundary between acceptable and unacceptable traffic conditions. At Level “E”, the ratio of the approach volume to capacity, or v/c ratio of an intersection, is between 90 and 100 percent of its theoretical capacity. Traffic congestion is considered to be unacceptable at Level of Service “F”.

All capacity analyses of individual intersections along the Massachusetts Avenue corridor were performed in accordance with the methodologies set forth in the 2000 *Highway Capacity Manual* (HCM). As defined in the HCM, LOS for signalized and unsignalized intersections is based on an average control delay in seconds per vehicle approaching the intersection for the peak 15-minute analysis period of a peak hour. The delay criteria, and their associated LOS rankings for signalized and unsignalized intersections, are given in Table 9 below.

TABLE 9 – Intersection Level-of-Service Criteria

Level of Service	Unsignalized			Signalized		
	Control Delay (sec/veh)			Control Delay (sec/veh)		
A	Less than or equal to 10.0			Less than or equal to 10.0		
B	10.1	to	15.0	10.1	to	20.0
C	15.1	to	25.0	20.1	to	35.0
D	25.1	to	35.0	35.1	to	55.0
E	35.1	to	50.0	55.1	to	80.0
F	Greater than 50.0			Greater than 80.0		

Source: 2000 Highway Capacity Manual

The HCM analysis is based on the assumption that intersections are isolated, and does not reflect the interaction of closely spaced intersections. *SimTraffic*, a microscopic simulation model accounts for the interaction of adjacent intersections; particularly, the impact of vehicle queues. The *SimTraffic* model was used to augment the HCM analyses for the Massachusetts Avenue corridor intersections.

The existing 2008 and projected 2018 and 2028 traffic volumes, shown in Figures 3, 4 and 5, respectively, were used to conduct a capacity analysis of the key Study Area intersections with the current geometry, signal phasing and timing. The results of this analysis are summarized for each intersection in the following sections.

TABLE 10 – Existing May 2010 ATR Traffic Volumes and Speed Summary

ATR Location		Average Daily Traffic			Speeds	
		VPD	AM	PM	Avg.	85 th
Bates Road, north of Mass Ave	NB	1,831	109	208	24	30
	SB	2,705	320	182	27	31
Broadway, west of Bates Street	WB	6,797	495	570	26	35
	EB	5,121	336	385	22	38
Broadway, east of Everett Street	WB	5,788	403	468	28	34
	EB	5,443	488	442	26	33
Brooks Avenue, south of Lake Street	NB	897	202	70	22	29
	SB	1,469	148	164	16	22
Chandler Street, west of Herbert Rd	EB	1,000	81	132	22	29
Cleveland Street, south of Broadway	SB	2,800	244	223	25	30
Egerton Street, north of Herbert Rd	SB	1,075	196	84	21	26
Everett Street, south of Broadway	SB	790	84	76	22	29
Fairmont Street, north of Herbert Rd	NB	185	14	16	18	24
	SB	427	24	44	18	24
Foster St, north of Massachusetts Ave	SB	1,000	164	80	21	28
Grafton Street, south of Broadway	NB	950	84	72	21	28
Harlow Street, south of Broadway	NB	475	42	40	21	28
Herbert Road, south of Lake Street	NB	1,350	120	112	19	25
Lafayette St, south of Mass Ave	NB	210	24	18	19	28
	SB	229	17	20	20	26
Lake Street, west of Freeman Street	EB	5,826	392	510	20	27
	WB	4,122	407	302	25	31
Marathon Street, south of Broadway	NB	2,750	229	252	25	30
Massachusetts Ave, east of Thorndike St	WB	9,473	614	680	24	34
	EB	9,155	635	670	26	37
Massachusetts Ave, west of Foster St	WB	10,087	662	810	24	31
	EB	10,038	793	766	24	34
Melrose St, south of Massachusetts Ave	NB	625	40	48	20	28
Milton St, south of Massachusetts Ave	SB	825	86	60	20	27
Orvis Road, south of Massachusetts Ave	NB	1,349	94	130	18	25
	SB	2,322	244	182	21	25
Oxford Street, south of Broadway	SB	1,425	219	97	24	29
River Street, south of University Road	NB	2,772	184	295	29	35
	SB	3,414	402	239	31	36
Tufts Street, south of Broadway	NB	800	100	84	19	28
Varnum St, south of Massachusetts Ave	NB	343	30	28	22	30
	SB	351	40	28	21	28
Winter Street, south of Broadway	EB	2,250	161	217	22	29

VPD=vehicles per day; vph=vehicles per hour; ATR=automatic traffic recorder; 85th = 85th percentile speed

2.0 EXISTING CONDITIONS

2.1 Geometrics

Massachusetts Avenue is classified as a *Principal Arterial*, under the jurisdiction of the Town of Arlington. The roadway generally runs in an east-west direction (northwest-southeast) through the study area and connects the Town of Arlington's Center on the west to the City of Cambridge at Alewife Brook Parkway (Route 16) on the east. The East Arlington section of Massachusetts Avenue, which is our Study Area, runs from Pond Lane to Alewife Brook Parkway (Route 16), and is approximately one mile in length.

Between Pond Lane and Orvis Road (i.e., the westerly section of the project), Massachusetts Avenue is 67 feet wide curb to curb. From Egerton Road to Alewife Brook Parkway (i.e., the easterly section of the project), Massachusetts Avenue is 66 feet wide curb to curb. Except for two short transition sections between Orvis Road and Oxford Street and between Cleveland Street and Egerton Road, the remainder of Massachusetts Avenue is 78 to 79 feet wide curb to curb. This wider section of road, which is located in the heart of the East Arlington Business District (i.e., Orvis Road to Milton Street), includes the Lake Street intersection where significant turning volumes are generated as a result of direct connections to the regional highway system (i.e., Route 2) at Lake Street. Other than a double yellow centerline, pavement markings are for the most part absent along Massachusetts Avenue. Although the roadway has width to operate as two narrow lanes in each direction, the lack of lane definition and dedicated turn lanes contributes to the confusion and unsafe driving habits of motorists. The excessive amount of pavement also contributes to speeding and potential conflicts with the many bicyclists using Massachusetts Avenue as a primary commuter route into Boston and Cambridge. For the most part, parallel parking exists on both sides of the street along the entire length of the corridor to primarily accommodate business patronage. Additionally, this one mile segment of Massachusetts Avenue is served by public transit and includes eight (8) MBTA bus stops in each direction.

Sidewalks ranging from 10 feet to 16 feet in width exist along both sides of Massachusetts Avenue along the entire length of the project. These wide sidewalks are typically comprised of a cement concrete, pedestrian accessible portion and a landscape/utility area, inaccessible portion. The accessible, cement concrete sidewalk portion varies in width from 6 feet to 9 feet along both sides of Massachusetts Avenue, with granite curbing along the entire length of the project. As mentioned above, public transportation is provided, as there are three MBTA bus routes along the study area corridor as follows:

- Bus No. 77, running from Arlington Heights to Harvard Square;
- Bus No. 79 from Arlington Heights to Alewife Station, and
- Bus No. 350 that runs from Burlington to Alewife Station.

There are eight (8) bus stops along each side of the corridor to accommodate passenger pick-up/drop-offs. These bus stop locations are in the vicinity of Franklin Street/Avon Place, Palmer Street/Wyman Street, Foster Street/Linwood Street, Harlow Street, Winter Street/Lake Street, Milton Street, Teel Street/Thorndike Street, and Boulevard Road.

A total of eleven (11) pedestrian crosswalks exist on Massachusetts Avenue along the entire length of the project corridor, including crosswalks at all six (6) Study Area intersections. Other crosswalks are located at selected mid-block locations along the corridor including Wyman Street, Tufts Street, Marathon Street, Varnum Street, and Lafayette Street.

The speed limit on many of the local side streets in the Study Area is posted for 20-25 mph. The speed limit along Massachusetts Avenue, while not posted along the entire corridor, is posted in selected locations for 30 mph. A speed study was done during the off-peak period using the floating car method and results indicated vehicles are traveling above the posted speed limit in both directions with recorded speeds of 36-39 mph. Speeds were also recorded along the local side streets and results indicated that most locations adhered to the posted speed limit.

2.2 Traffic Operations

As stated previously, the existing 2008 and projected 2018 and 2028 peak hour traffic volumes shown on Figures 3, 4 and 5 respectively were used to conduct a capacity analysis of the Massachusetts Avenue intersections, with the current geometry, signal phasing and timing. The results of this analysis, summarized in Table 11, indicate traffic at the signalized intersection of Massachusetts Avenue and Lake Street presently operates at an overall LOS F in both the morning and afternoon peak hours, with over-capacity conditions (i.e., volume to capacity ratio greater than 1.00) for both peak periods. At selected times during peak period field observations, vehicle queues blocked the intersection so that vehicles could not turn in and out of Lake Street. Field investigations along the Lake Street corridor indicate the traffic signal at Brooks Avenue, near the Hardy School, is not coordinated with the Lake Street signal at Massachusetts Avenue. While it is likely the lack of coordination contributes to the constant vehicle queues and congestion along Lake Street, the frequent pedestrian/bicycle crossings in the vicinity of Brooks Avenue and the Minuteman Bike Trail are also a major contributing factor.

As mentioned earlier in this report, significant delays and inefficiencies of the Lake Street/Brooks Avenue intersection, together with uncontrolled operations at the nearby Minuteman Bike Trail, result in substantial queuing along the Lake Street corridor which, in turn, leads to local traffic diversions and “cut-through” traffic on neighborhood streets that would otherwise remain on the primary travel routes. While some benefits can be achieved in the immediate vicinity of the Massachusetts Avenue/Lake Street intersection, operational improvements along the Massachusetts Avenue corridor have little effect on the inefficient operations in the vicinity of Brooks Avenue. It may be prudent to study this Lake Street/Brooks Avenue/Minuteman Bike Trail location at some future period as part of a more comprehensive Lake Street corridor study.

The two remaining signalized intersections along the corridor today (Foster St/Linwood St and Thorndike St/Teel St), operate at LOS A, during both weekday peak hours. Vehicle delays are computed to be less than 10 seconds of delay at both of these locations. In addition to Level of Service and vehicle delay, the analysis results also summarized vehicle queues at these signalized intersections. To corroborate analysis results of computed vehicle queues with actual field conditions, we recorded vehicle queues during the peak hour periods. These actual results

are also noted in Table 11. As indicated, computed results compare quite favorably with actual conditions for the weekday periods. The intersection of Massachusetts Avenue and Lake Street operates at a better Level of Service (LOS D) during the Saturday mid-day period than during the weekday peaks, see Table 12.

The busiest intersection in the Study Area, Massachusetts Avenue/Alewife Brook Parkway (Route 16), operates at LOS E for the peak periods with long vehicle queues calculated on all approaches. This intersection was also determined to have near or over-capacity conditions (i.e. v/c near 1.00). During field observations, it was noted that some of the lane approaches do not clear the green signal indication during the peak periods. This is most evident with vehicles in the left turn lanes. This intersection is under control of the Department of Conservation and Recreation (DCR), however, the City of Cambridge occasionally makes adjustments to the timing of the signal. Discussions with City of Cambridge officials revealed the controller was not timed properly during the traffic count period. The City indicated the control cabinet would be replaced with a more efficient unit in the near future.

For the two unsignalized intersections in the Study Area, (Massachusetts Avenue/Bates Road/Marion Road and Massachusetts Avenue/Orvis Street/Grafton Street) the analysis shows both locations experience long delays (LOS F) from the side streets during both peak hour periods. It is likely that many of the side street intersections along the corridor also experience long delays as well.

In 2018 and 2028, without any mitigation or roadway improvements, the operating conditions at the Massachusetts Avenue/Lake Street signalized intersection will continue at LOS F and drop to LOS F/E at the Massachusetts Avenue/Alewife Brook Parkway (Route 16) signalized intersection during both peak periods with volume-to-capacity ratios over 1.00. These results are evident in Tables 13 and 14. Additionally, the unsignalized locations of Massachusetts Avenue/Bates Road/Marion Road and Massachusetts Avenue/Orvis Road/Grafton Street will continue to operate with long delays from the side streets (i.e. LOS F in both peak periods).

TABLE 11 – 2008 Existing Weekday Peak Hour Intersection Level of Service

		AM Peak						PM Peak						Available Storage
Intersection	Movement	Delay ¹	LOS	V/c ²	Queue ³			Delay ¹	LOS	v/c ²	Queue ³			
					50%	95%	Obs. ⁴				50%	95%	Obs. ⁴	
Signalized Intersections														
Linwood Street/Foster Street														
	Westbound Lt/Th	4.7	A	0.38	39	153	50	5.2	A	0.42	46	181	125	500+
	Eastbound Th/Rt	5.5	A	0.50	66	202	50	5.1	A	0.40	45	180	75	500+
	Linwood Street Northbound	33.4	C	0.23	9	51	25	31.6	C	0.24	10	50	25	500+
	Foster Street Southbound	47.5	D	0.69	32	108	25	38.3	D	0.60	32	54	50	500+
	OVERALL	8.2	A	0.52				8.0	A	0.44				
Lake Street/Winter Street														
	Westbound Lt/Th/Rt	94.3	F	2.32	231	340	175	109.6	F	1.40	274	388	250	500+
	Eastbound Lt/Th	39.2	D	0.92	238	328	250	24.1	C	0.65	154	194	175	500+
	Eastbound Rt	32.6	C	0.74	141	214	250	19.3	B	0.26	43	78	175	500+
	Lake Street Northbound	368.7	F	1.73	494	505	175	280.8	F	1.53	423	516	350	500+
	OVERALL	133.8	F	1.32				122.2	F	1.28				
Thorndike Street/Teel Street														
	Westbound	4.4	A	0.27	24	97	25	3.1	A	0.36	37	145	100	500+
	Eastbound	3.2	A	0.48	50	177	75	2.9	A	0.31	28	114	75	500+
	Thorndike Street Northbound	37.2	D	0.45	17	25	25	48.6	D	0.60	15	46	25	500+
	Teel Street Southbound	34.0	C	0.13	4	35	25	35.6	D	0.02	0	0	25	500+
	OVERALL	6.1	A	0.47				5.3	A	0.38				
Alewife Brook Parkway														
	Westbound Lt	218.9	F	1.31	264	433	250	186.6	F	1.24	278	453	275	210
	Westbound Th/Rt	33.3	C	0.54	186	233	175	39.6	D	0.68	228	295	325	500+
	Eastbound Lt	111.0	F	0.97	125	171	175	73.5	E	0.70	81	165	75	160
	Eastbound Th/Rt	54.4	D	0.93	339	464	350	49.6	D	0.81	234	304	225	500+
	Parkway Northbound Lt	56.7	E	0.49	62	109	125	98.1	F	0.93	133	255	200	150
	Parkway Northbound Th/Rt	40.9	D	0.79	297	329	300	44.4	D	0.90	407	537	350	500+
	Parkway Southbound Lt	60.6	E	0.60	85	142	150	58.9	E	0.57	82	118	125	180
	Parkway Southbound Th/Rt	73.8	E	1.03	494	630	350	32.4	C	0.65	264	318	350	500+
	OVERALL	67.6	E	1.00				56.5	E	0.93				
Unsignalized Intersections														
Marion Road/Bates Road														
	Marion Road Northbound	85.9	F	0.39			-	94.9	F	0.52				
	Bates Road Southbound	-	F	4.14			-	744.4	F	2.45				
Orvis Road / Grafton Street														
	Orvis Road Northbound	431.5	F	1.52			-	344.9	F	1.42				

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane (25 feet per vehicle).

4. Observed; NA = not applicable

5. Measured in feet

**TABLE 12 – 2008 Existing Saturday Mid-Day Intersection
Level of Service**

Massachusetts Avenue (WB/EB)		Mid-day				
Intersection	Movement	Delay ¹	LOS	v/c ²	Queue ³	
					50%	95%
<i>Signalized Intersections</i>						
<u>Linwood Street/Foster Street</u>						
	Linwood Street Northbound	29.5	C	0.26	12	53
	Foster Street Southbound	40.2	D	0.65	35	66
	Westbound Lt/Th	5.1	A	0.39	41	165
	Eastbound Lt/Th	5.0	A	0.39	44	172
	OVERALL	8.2	A	0.43		
<u>Lake Street/Winter Street</u>						
	Lake Street Northbound	115.4	F	1.12	247	288
	Westbound Lt/Th	45.5	D	0.96	192	297
	Eastbound Lt/Th	23.6	C	0.62	137	164
	Eastbound Rt	19.7	B	0.29	47	74
	OVERALL	51.4	D	1.01		
<u>Thorndike Street/Teel Street</u>						
	Thorndike Street Northbound	37.2	D	0.34	10	18
	Teel Street Southbound	35.6	D	0.17	4	35
	Westbound Lt/Th	2.7	A	0.24	22	90
	Eastbound Lt/Th	2.7	A	0.26	23	94
	OVERALL	5.7	A	0.27		

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane (25 feet per vehicle).

TABLE 13 – 2018 Future No-Build Intersection Level of Service

TABLE 15 2016 Future No-Build Intersection Level of Service												
		AM Peak					PM Peak					Available Storage ⁴
Intersection	Movement	Delay ¹	LOS	v/c ²	Queue ³		Delay ¹	LOS	v/c ²	Queue ³		
					50%	95%				50%	95%	
<i>Signalized Intersections</i>												
<u>Linwood Street/Foster Street</u>												
	Westbound Lt/Th	5.3	A	0.41	42	164	5.5	A	0.45	50	195	500+
	Eastbound Th/Rt	6.2	A	0.54	71	217	5.2	A	0.42	48	192	500+
	Linwood Street Northbound	32.2	C	0.21	10	53	30.8	C	0.25	11	52	500+
	Foster Street Southbound	43.1	D	0.66	34	118	38.4	D	0.62	34	55	500+
	OVERALL	8.6	A	0.55			8.1	A	0.47			
<u>Lake Street/Winter Street</u>												
	Westbound Lt/Th	112.5	F	2.44	250	362	143.3	F	1.59	302	418	500+
	Eastbound Lt/Th	45.9	D	0.97	256	353	24.9	C	0.68	164	206	500+
	Eastbound Rt	35.1	D	0.78	151	238	19.5	B	0.27	45	81	500+
	Lake Street Northbound	409.2	F	1.82	531	537	324.8	F	1.63	458	549	500+
	OVERALL	151.7	F	1.39			146.7	F	1.37			
<u>Thorndike Street/Teel Street</u>												
	Westbound Lt/Th	3.3	A	0.29	25	103	3.2	A	0.38	40	156	500+
	Eastbound Lt/Th	4.6	A	0.50	53	191	3.0	A	0.33	30	121	500+
	Thorndike Street Northbound	37.4	D	0.46	17	25	53.8	D	0.64	16	48	500+
	Teel Street Southbound	34.1	C	0.13	4	35	35.2	D	0.02	0	0	500+
	OVERALL	6.2	A	0.50			5.6	A	0.40			
<u>Alewife Brook Parkway</u>												
	Westbound Lt	245.7	F	1.38	285	458	214.1	F	1.31	304	483	210
	Westbound Th/Rt	33.9	C	0.56	198	247	40.7	D	0.71	243	312	500+
	Eastbound Lt	124.3	F	1.02	135	183	77.2	E	0.74	85	177	160
	Eastbound Th/Rt	62.6	E	0.97	364	504	52.4	D	0.85	249	342	500+
	Parkway Northbound Lt	57.9	E	0.52	65	114	109.8	F	0.98	141	273	150
	Parkway Northbound Th/Rt	43.1	D	0.83	317	351	50.1	D	0.95	438	584	500+
	Parkway Southbound Lt	62.0	E	0.62	89	147	60.1	E	0.59	86	122	180
	Parkway Southbound Th/Rt	91.2	F	1.08	543	678	33.3	C	0.68	282	338	500+
	OVERALL	77.2	E	1.05			61.8	E	0.98			
<i>Unsignalized Intersections</i>												
<u>Marion Road/Bates Road</u>												
	Marion Road Northbound	116.6	F	0.49			128.4	F	0.63			
	Bates Road Southbound	-	F	5.19			-	F	3.04			
<u>Orvis Road/Grafton Street</u>												
	Orvis Road Northbound	503.6	F	1.68			519.6	F	1.79			

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane (25 feet per vehicle); N/A = not applicable

4. Measured in feet

TABLE 14 – 2028 Future No-Build Intersection Level of Service

TABLE 11 2020 Future No-Build Intersection Level of Service												
		AM Peak					PM Peak					Available Storage ⁴
Intersection	Movement	Delay ¹	LOS	v/c ²	Queue ³		Delay ¹	LOS	v/c ²	Queue ³		
					50%	95%				50%	95%	
<i>Signalized Intersections</i>												
<u>Linwood Street/Foster Street</u>												
	Westbound Lt/Th	5.5	A	0.44	45	176	5.7	A	0.47	53	208	500+
	Eastbound Lt/Th	6.6	A	0.57	76	232	5.5	A	0.45	52	205	500+
	Linwood Street Northbound	31.4	C	0.23	55	372	29.8	C	0.26	12	54	500+
	Foster Street Southbound	43.5	D	0.68	35	124	39.0	D	0.65	37	60	500+
	OVERALL	8.8	A	0.58			8.4	A	0.50			
<u>Lake Street/Winter Street</u>												
	Westbound Lt/Th	129.1	F	2.55	267	381	171.6	F	1.73	327	445	500+
	Eastbound Lt/Th	58.9	E	1.02	287	383	23.9	C	0.65	166	206	500+
	Eastbound Rt	37.8	D	0.81	161	267	19.7	B	0.29	47	85	500+
	Lake Street Northbound	444.1	F	1.90	563	564	349.4	F	1.68	487	578	500+
	OVERALL	169.6	F	1.44			164.3	F	1.44			
<u>Thorndike Street/Teel Street</u>												
	Westbound Lt/Th	3.4	A	0.30	27	108	3.3	A	0.40	43	165	500+
	Eastbound Lt/Th	4.8	A	0.52	58	205	3.1	A	0.34	32	128	500+
	Thorndike Street Northbound	37.6	D	0.48	18	25	55.3	E	0.66	17	49	500+
	Teel Street Southbound	34.2	C	0.16	5	38	35.1	D	0.02	0	0	500+
	OVERALL	6.4	A	0.52			5.7	A	0.41			
<u>Alewife Brook Parkway</u>												
	Westbound Lt	275.1	F	1.45	308	484	235.8	F	1.36	324	506	210
	Westbound Th/Rt	34.5	C	0.59	210	260	41.9	D	0.75	257	330	500+
	Eastbound Lt	139.2	F	1.07	151	196	81.5	F	0.78	90	189	160
	Eastbound Th/Rt	74.3	E	1.02	410	541	56.0	E	0.89	264	368	500+
	Parkway Northbound Lt	59.2	E	0.55	69	119	122.0	F	1.03	156	289	150
	Parkway Northbound Th/Rt	45.8	D	0.87	338	371	58.8	E	0.99	471	630	500+
	Parkway Southbound Lt	63.9	E	0.66	93	162	61.9	E	0.63	91	128	180
	Parkway Southbound Th/Rt	110.8	F	1.14	590	727	34.3	C	0.71	301	258	500+
	OVERALL	88.6	F	1.10			67.5	E	1.03			
<i>Unsignalized Intersections</i>												
<u>Marion Road/Bates Road</u>												
	Marion Road Northbound	158.5	F	0.61			235.3	F	0.92			
	Bates Road Southbound	-	F	-			-	F	4.00			
<u>Orvis Road/Grafton Street</u>												
	Orvis Road Northbound	678.3	F	2.05			719.5	F	2.21			

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane (25 feet per vehicle); N/A = not applicable

4. Measured in feet

2.3 Safety

MassDOT's crash history for the Massachusetts Avenue Study Area corridor was investigated for the five-year period spanning 2004 through 2008, and the results are shown in Table 15. During the time period investigated, there were 35 crashes or an average of 7 per year at the Massachusetts Avenue/Alewife Brook Parkway intersection; 4 crashes at the Massachusetts Avenue/Thorndike Street/Teel Street intersection; 23 crashes at the Massachusetts Avenue/Lake Street/Winter Street intersection; 14 crashes at the Massachusetts Avenue/Orvis Road/Grafton Street intersection; 6 crashes at the Massachusetts Avenue/Marion Road/Bates Road intersection, and 3 crashes at the Massachusetts Avenue/Linwood Street/Foster Street intersection.

The majority of the pedestrian and bicycle accidents occurred at the Massachusetts Avenue/Lake Street/Winter Street intersection. This is due to the fact that the majority of pedestrian and bicycle activity in the corridor occurs at this intersection, which happens to be located in the heart of the East Arlington Business District. In addition, the side streets (Lake Street and Winter Street) are offset from each other, contributing to the operational problems and confusion between pedestrians, bicyclists and drivers with regard to individual travel patterns. Crash data also indicates there were two-bicycle accidents each at the Marion Road/Bates Road and Orvis Road/Grafton Street intersections, respectively.

A crash analysis was completed for the areas between the intersections or roadway links shown in Table 14 with 35 accidents occurring between the Massachusetts Avenue/Lake Street/Winter Street and Massachusetts Avenue/Thorndike Street/Teel Street intersections. The large number of local side streets, their close proximity to each other, and the lack of signal control may contribute to the cause of these accidents; however, there was no apparent trend in the type of collision identified. There were two accidents recorded involving pedestrians or bicyclists possibly because only two crosswalks of Massachusetts Avenue exist between these intersections, both at mid-block locations without signal control. These accidents may have occurred because of Massachusetts Avenue's excessive road width, leaving pedestrians unprotected for some distance as they attempt to cross at points along the corridor.

Although the number of crashes alone is important, the actual exposure or potential for an individual driver being involved in an accident is reflected in the crash rate. The crash rates for the Massachusetts Avenue intersections were developed using MassDOT's Crash Rate Worksheet (see Appendix), and compared to the Statewide average crash rate of 0.82 crashes for every million entering vehicles (MEV) for a signalized intersection and 0.62 crashes for every million vehicles entering an unsignalized intersection. The intersection of Massachusetts Avenue and Lake Street has a crash rate of 0.87 MEV, which is greater than the MassDOT average. The remaining intersections were found to have crash rates below both the statewide and MassDOT district averages.

Table 15 -Massachusetts Avenue Intersection 5-Year Crash History

	Linwood St /Foster St	Marion Rd /Bates Rd	Massachusetts Avenue at: Orvis Rd/ Grafton St		Thorndike St/Teel St	Alewife Brook Pkwy	Total
Signalized?	Yes	No	No	Yes	Yes	Yes	
Year							
2004	1	1	1	7	0	5	15
2005	1	1	3	1	4	12	22
2006	0	1	3	3	0	9	16
2007	1	3	2	3	0	4	13
2008	0	0	5	9	0	5	19
Total	3	6	14	23	4	35	85
Collision Type							
Angle	1	1	7	5	2	15	31
Head-on	0	1	1	0	0	2	4
Rear-end	2	1	3	12	2	11	31
Sideswipe	0	1	2	2	0	2	7
Single Vehicle	0	1	0	1	0	3	5
Unknown	0	1	1	3	0	2	7
Total	3	6	14	23	4	35	85
Severity							
Fatality	0	0	0	0	0	0	0
Injury	1	1	1	6	2	15	26
Property	2	3	8	13	2	18	46
Bicyclist	0	2	2	2	0	1	7
Pedestrian	0	0	0	1	0	0	1
Unknown	0	0	3	1	0	1	5
Total	3	6	14	23	4	35	85
Time of Day							
7:00 AM – 9:00 AM	1	1	0	2	1	2	7
9:01 AM – 3:59 PM	1	3	9	9	1	13	36
4:00 PM – 6:00 PM	1	1	3	2	1	2	10
6:01 PM – 6:59 AM	0	1	2	10	1	18	32
Total	3	6	14	23	4	35	85
Pavement Conditions							
Dry	1	5	8	13	2	27	56
Wet	0	1	5	8	2	6	22
Snow	0	0	0	0	0	1	1
Ice	2	0	0	1	0	0	3
Unknown	0	0	1	1	0	1	3
Total	3	6	14	23	4	35	85
Average Crash Rate	0.82	0.62	0.62	0.82	0.82	0.82	
Intersection Crash Rate	0.11	0.21	0.49	0.87	0.15	0.63	
Above MHD Crash Rate?	No	No	No	Yes	No	No	

Table 16 - Massachusetts Avenue Roadway Links 5-Year Crash History

	Between Pond Ln & Marion Rd	Between Marion Rd & Orvis Rd	Between Orvis Rd & Lake St	Between Lake St & Teel St	Between Teel St & Alewife Brook	Total
Year						
2004	0	1	1	5	1	8
2005	1	1	2	5	6	15
2006	0	0	1	8	2	11
2007	0	0	1	7	2	10
<u>2008</u>	<u>7</u>	<u>3</u>	<u>0</u>	<u>10</u>	<u>5</u>	<u>25</u>
Total	8	5	5	35	16	69
Collision Type						
Angle	3	3	1	10	5	22
Head-on	1	0	0	3	0	4
Rear-end	3	0	1	4	6	14
Sideswipe	0	0	1	6	2	9
Single Vehicle	1	1	1	4	2	9
<u>Unknown</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>8</u>	<u>1</u>	<u>11</u>
Total	8	5	5	35	16	69
Severity						
Fatality	0	0	0	0	1	1
Hit and Run	0	0	0	0	0	0
Injury	3	2	1	6	1	13
Property	4	1	2	15	7	29
Bicyclist	0	1	0	1	2	4
Pedestrian	0	1	0	1	0	2
<u>Unknown</u>	<u>1</u>	<u>0</u>	<u>2</u>	<u>12</u>	<u>5</u>	<u>20</u>
Total	8	5	5	35	16	69
Time of Day						
7:00 AM – 9:00 AM	1	1	2	5	4	13
9:01 AM – 3:59 PM	4	1	2	13	3	23
4:00 PM – 6:00 PM	1	0	0	9	2	12
<u>6:01 PM – 6:59 AM</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>8</u>	<u>7</u>	<u>21</u>
Total	8	5	5	35	16	69
Pavement Conditions						
Dry	5	2	3	27	12	49
Wet	3	3	2	7	1	16
Snow	0	0	0	0	1	1
Ice	0	0	0	0	0	0
Other	0	0	0	0	0	0
<u>Unknown</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>
Total	8	5	5	35	16	69

2.4 Traffic Signal Warrant Analysis-Existing

Based on peak period field observations and existing level of service results of the intersections along the Study Area corridor, it was determined a traffic signal warrant analysis of the signalized intersections along the corridor should be performed. In particular, the *Massachusetts Avenue/Linwood Street/Foster Street* intersection and the *Massachusetts Avenue/Thorndike Street/Teel Street* intersection were reviewed in detail. Both of these 4-way intersections have one-way streets entering Massachusetts Avenue, low side street volumes (400-800 vehicles per day) and operate at LOS A during both peak hour periods for Existing 2008 conditions as well as Future 2018 and 2028 No Build conditions. Town of Arlington officials indicated that both of these signals were installed a number of years ago to service now-defunct schools on Foster Street and Teel Street.

The Manual on Uniform Traffic Control Devices (MUTCD) lists eight (8) traffic signal warrants for consideration for possible signalization at an intersection. These warrants are:

- Warrant 1 - Eight Hour Vehicular Volume
- Warrant 2 - Four Hour Vehicular Volume
- Warrant 3 – Peak Hour
- Warrant 4 - Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 6 – Coordinated Signal System
- Warrant 7 – Crash Experience
- Warrant 8 - Roadway Network

MassDOT has adopted these warrants and typically requires, at a minimum, Warrant 1 to be met for consideration of a signal. For the above two locations, we tested Warrants 1, 2, 3, 4 and 7. Warrants 5 and 6 are not applicable and, therefore, were not analyzed. Review of the crash rates at both locations indicate both intersections are below the Statewide and MassDOT District 4 crash rates. It may be that a change in land use in the area or a crash history may have contributed to these locations being signalized years ago. This is not the case today.

Warrant analysis indicates that Warrants 1-4 and 7 were not satisfied at either location.

The Town of Arlington has received considerable input from local residents and businesses about maintaining traffic signals at the Linwood Street/Foster Street and Thorndike Street/Teel Street intersections. In light of these locations not meeting MUTCD signal warrant criteria today and the fact that both of these locations have been signalized for decades, meetings were held with MassDOT officials to discuss maintaining and upgrading both signalized locations. Recent indications are that both signalized locations can remain, but the equipment and locations must be upgraded to current MUTCD standards.

Based on the significant traffic volumes and high crash rates at the intersections of Lake Street and Alewife Brook Parkway, signal warrants at these locations were not analyzed.

3.0 IMPROVEMENTS

3.1 Signal Warrant Analysis

To determine if the installation of traffic signals are warranted at the two unsignalized intersections of Massachusetts Avenue/Bates Road/Marion Road and Massachusetts/Orvis Road/Grafton Street, a traffic signal warrant analysis using MUTCD criteria and existing 2008 traffic volumes was conducted at each location. Analysis indicates that the Massachusetts Avenue/Bates Road/Marion Road intersection warrants a traffic signal based on Warrant 1-Eight Hour Vehicle Volume (Condition A –Minimum Vehicle Volume and Condition B - Interruption of Continuous Traffic), Warrant 2-Four Hour Volume Warrant, and Warrant 3-Peak Hour Warrant. As a result, this location is a candidate for signalization in an effort to improve operations and safety.

For the Massachusetts Avenue/Orvis Road/Grafton Street intersection, only Condition B- Interruption of Continuous Traffic of Warrant 1-the Eight Hour Volume Warrant is satisfied. Based on the fact that only one out of eight warrants is satisfied, it is unlikely signalization at this location would be adequately justified. Nevertheless, geometric improvements might be warranted in the future and this intersection may be a candidate for traffic monitoring.

3.2 Geometric and Pedestrian Accommodations

Accident data indicates some pedestrian and bicycle accidents involving motor vehicles have occurred at various locations along the corridor, therefore, several measures will be identified in the next section to enhance pedestrian and bicycle safety, as well as improve traffic operations at Study Area intersections. Since Massachusetts Avenue has an expansive width of pavement and is not very pedestrian-friendly today, maintaining controlled areas for pedestrian crossings via signals or designated areas such as sidewalk neckdowns is critical to reducing pedestrian crossing times. In addition, at selected locations along the corridor some geometric modifications are warranted as well. These will be discussed in the next section.

3.3 Travel Lane Requirements

The existing geometric conditions and description of the project corridor are noted in a previous section of this report. Essentially, while the number of travel lanes is not actually delineated along Massachusetts Avenue, enough pavement width exists to support its' use by motorists as having two narrow travel lanes in each direction. Unfortunately, because of the presence of on-street parallel parking on both sides of the street coupled with a considerable number of bicycle commuters, most drivers choose to travel in a staggered fashion, often moving into the travel path of adjacent vehicles to avoid potential conflicts with bicyclists and pedestrians waiting to cross the street, as well as other vehicles. Historically the corridor use to accommodate trolley tracks and automobiles as well as pedestrians. With the east-west travel being the primary travel route, the 66-80 foot curb-to-curb width of the roadway was necessary to service this historic mixed-use demand. With the removal of the trolley tracks a number of years ago, the road was simply resurfaced across the entire existing curb-to-curb dimensions.

The Massachusetts Avenue Corridor Project is a culmination of approximately 10 years of extensive study and traffic analysis that indicates a maximum need of three (3) travel lanes to accommodate projected traffic volumes along the corridor. Throughout the study process a Transportation Advisory Committee (TAC), established by the Board of Selectmen, was in place to provide oversight and guidance. A separate Design Review Committee (DRC) was later established to provide similar guidance and constructive feedback during the early conceptual and design phase of the project. Prior traffic studies and evaluations conducted by engineering consultants on behalf of the Town of Arlington and published in separate reports in 2002, 2005 and, most recently, in 2010, clearly demonstrate that future traffic volumes are adequately accommodated by three through travel lanes from Linwood Street to Alewife Brook Parkway (Route 16) and by one through travel lane in each direction from Pond Lane to Linwood Street. Using procedures outlined in the Highway Capacity Manual (HCM)¹ and as adopted by MassDOT, traffic analyses were conducted for the future 2018 and 2028 Build conditions by FST and we concur that four (4) through travel lanes are not needed along the Massachusetts Avenue corridor. It is important to note, however, that the provision of exclusive turn lanes will be necessary at major intersections and selected commercial driveways to help improve overall operations.

Realizing the existing roadway width is more than sufficient to safely and efficiently accommodate projected (2028) vehicular traffic volumes, the Town of Arlington, through it's Planning and Community Development Department, sought to enhance the travel experience within the corridor for all of its users - pedestrians, bicyclists and motorists. The results of the various traffic analyses to date have indicated surplus pavement exists within the Massachusetts Avenue corridor, thereby providing a unique and exciting opportunity to reallocate the public space within this "Great Street" to better serve adjacent property and business owners as well as the surrounding East Arlington community.

Consequently, the Massachusetts Avenue Improvement Plan is a multimodal plan that addresses mobility and safety for all users of the corridor while improving streetscape elements and promoting business patronage through improved pedestrian, bicycle and transit accommodation. Some of these improvements include new and wider sidewalks, shorter crosswalks, pedestrian refuge islands, center medians or planting strips, dedicated bicycle lanes, new and upgraded traffic signals, parking provisions, period lighting, landscaping treatments and improved signage. There is evidence to suggest the efforts to attract more pedestrians and bicyclists to the East Arlington Business District will have a positive economic impact on businesses.

In summary, having this unique ability to reallocate public space within the corridor to better serve adjacent property and business owners, the Town of Arlington has identified the following goals and objectives for the Massachusetts Avenue Corridor Project:

- Improve pedestrian safety and mobility;
- Improve cyclist safety and mobility;
- Improve the environment for transit users;
- Maintain motorist mobility;

¹ Highway Capacity Manual; Transportation Research Board; 2000

- Minimize through traffic on local neighborhood streets;
- Create safer and more orderly traffic flow;
- Improve access and increase business patronage;
- Enhance the streetscape

3.3.1 4-Lane vs. 3-Lane Cross-Section

Review of the existing corridor layout, field observations and traffic analysis indicate four (4) travel lanes (two through travel lanes in each direction) along this principal arterial are not necessary to accommodate current travel demands. Traffic projections for the 2018 and 2028 horizon years and respective traffic analysis indicate this is true for future conditions as well.

From the existing traffic data collected, we recorded a range of 1,600 – 1,800 vehicles per hour during peak hour periods. For the 2018 and 2028 conditions, Massachusetts Avenue is projected to carry 1,750 – 2,000 vehicles during peak commuter periods, thus, a 3-lane cross section is supported at selected locations along the corridor where exclusive turn lanes are not provided. Reference is also made to *Urban Street-Geometric Design Handbook*, published by the Institute of Transportation Engineers for a variety of roadway types in urban settings.

Current peak hour volumes along Massachusetts Avenue demonstrate that morning eastbound traffic volumes are in the range of 900-1,100 vehicles per hour (vph) indicating one lane is sufficient for acceptable operations except at key area intersections where turning movements are higher. Total peak hour volumes (i.e., both directions) are recorded to be 1,575-1,785 vehicles per hour. For future conditions, these respective peak hour volumes are 1,055-1,170 vph in the eastbound direction and a total (two directions) of 1,686-1,935 vph at key intersections where turn lanes will be provided. Consequently, for selected locations along Massachusetts Avenue, one through travel lane in each direction can adequately accommodate future travel demands, while two through travel lanes eastbound are proposed from approximately Tufts Street to Alewife Brook Parkway (Route 16) due to the higher traffic volumes associated with commuter travel into Cambridge and Boston during the AM peak period.

Reviewing the service volumes along the corridor, reference is made to saturation flow rates where the saturation flow rate is defined as the equivalent hourly rate at which previously queued vehicles can traverse an intersection under prevailing conditions assuming the green signal is available at all times. Adjustments in the analysis are made to the saturation flow to account for bicycles, pedestrians, bus activity, lane widths, left and right-turns, parking maneuvers, corridor speeds, spacing of traffic signals, use of travel lanes and other such factors affecting roadway and intersection operations.

Over the last decade there have been a number of traffic corridor planning studies completed for the Town of Arlington and all have concluded that a 4-lane cross section (two through travel lanes in each direction) is not necessary to accommodate future traffic projections along the Massachusetts Avenue corridor within our project limits. Several prior studies have called for a two-lane cross section (one travel lane in each direction), except at some specific locations where the need for additional turn lanes may be warranted. Reference is made to the

following historic documents that recommend a reduced cross section for Massachusetts Avenue in Arlington between Franklin Street and Alewife Brook Parkway (Route 16):

- Massachusetts Avenue Corridor Study; Louis Berger, Inc. December, 2001
- Massachusetts Avenue Corridor Study; Louis Berger, Inc. November, 2002
- Memorandum to Arlington Traffic Advisory Committee; VHB, Inc. May, 2005

These studies show a range of 1,560-1,850 vehicles per hour along the Massachusetts Avenue study area corridor during peak hour periods. Recent FST data showed a similar range of 1,570-1,785 vehicles per hour during the same peak hour periods.

Reference is made to Table 10-7 of the HCM – Example Service Volumes for Urban Streets, for the equivalent roadway with traffic signals. Noted below is a general guide for urban roadways:

- 2-lane roadway 1,470 – 1,770 vehicles per hour
- 3-lane roadway 2,280 – 2,660 vehicles per hour
- 4-lane roadway 3,090 – 3,550 vehicles per hour

For the 2018 and 2028 future conditions, Massachusetts Avenue is projected to carry between 1,750 and 2,000 vehicles during peak hour commuter periods. As a result, the use of a 3-lane cross section is supported by the guidance listed above at selected locations along the corridor where exclusive turn lanes are not provided or not warranted. Reference is also made to the *Urban Street-Geometric Design Handbook*, published by the Institute of Transportation Engineers for a variety of roadway types in urban settings.

With the ability to reallocate additional roadway space obtained by the reduction in the required number of through travel lanes, dedicated bicycle lanes in each direction along the entire corridor and wider sidewalks within the East Arlington Business District are proposed to enhance pedestrian safety and other modes of travel.

While dedicated bicycle lanes and wide travel lanes of a shared use facility are both acceptable facilities in many locations, the debate as to which method is safer and more preferable continues. Although surveys have shown that most bicyclists prefer dedicated bike lanes, there is no real evidence to demonstrate that one method of bicycle accommodation is actually safer than another when part of a new multimodal facility. In the case of the Massachusetts Avenue corridor, however, the roadway facility already exists and, therefore, any attempt to provide safe accommodation for bicycles must effectively deal with existing right of way constraints and various characteristics or components of the corridor (i.e., commuter traffic, curbing, driveway access, side street traffic and intersections, on-street parking, active bus routes, trucks and other delivery vehicles, etc.)

Except for the East Arlington Business District (Lake Street/Capitol Square), the existing Massachusetts Avenue roadway is essentially constrained to a 66-foot width (i.e., curb to curb). Even minimal widening of the roadway facility along these constrained sections would have a substantial impact to existing sidewalks, trees, signs, hydrants, utility poles, etc. and add

significant cost to the project. Consequently, the revised design for Massachusetts Avenue does not increase existing roadway width along these sections of the corridor and, instead, widens existing sidewalks in a number of critical locations, specifically the Lake Street/Capitol Square area between Orvis Road and Milton Street and at crosswalk locations.

Although four (4) through travel lanes are not needed to accommodate future traffic volumes along Massachusetts Avenue, FST understands and recognizes the importance of examining bicycle accommodation using a four lane, shared use facility as suggested by the East Arlington Concerned Citizens Committee (EACCC).

Notwithstanding the travel lane reduction issue, this evaluation was performed solely to determine the implications of a four lane, shared use facility along Massachusetts Avenue. The result of our analysis demonstrates that a four lane, shared use facility does not allow enough space for safe bicycle travel when all lanes within the corridor are in use. Maintaining the 66-foot roadway width as a constraint, FST examined both methods of providing bicycle accommodation using dedicated 5'-0" striped bike lanes as proposed in the revised 25% design and wide 14'-0" shared use, right side travel lanes as an alternative.

For purposes of this comparison, we assumed all through travel lanes, except for the wide shared use lanes, are 11 feet wide and all parking lanes are 8 feet wide. Although current bicycle guidelines referenced in MassDOT's 2006 Project Development and Design Guide indicate minimum widths of bike lanes and shared use lanes should be 5 feet and 15 feet, respectively, when adjacent to on street parking, the width of the shared use lane was limited to 14 feet because of the existing roadway constraint (i.e., 66 feet curb to curb).

Other than the additional one-foot requirement next to on street parking, current guidelines do not directly address the "door zone" issue associated with bicycles and parked vehicles. To avoid or minimize the likelihood of a potential "dooring" incident, FST provided an additional two feet to the parking accommodation in the proposed three lane cross section. The parking stalls, if marked individually, would remain at 8 feet from the curb, however, there is an additional two feet between the parking stall pavement markings and the nearest bike lane pavement marking accounting for the "door zone" of parked vehicles. As this issue has gained more and more attention in recent years, FST believes this a good use of the additional space afforded by the three lane cross section to optimize safety and comfort for both drivers and bicyclists.

As can be seen in the Figure 8 below, the door zone of parked vehicles would encroach into the right side, shared use lane of a four lane cross section. The figure offers a graphical comparison between a four lane, shared use cross section and a three lane, dedicated bike lane cross section for Massachusetts Avenue.

The minimum lateral component distances shown are based on extensive research and are necessary to accommodate safe bicycle accommodation. In both cross sections, all of the travel lanes are in use with no encroachment into adjacent traffic lanes. Note, the four lane, shared use cross section does not allow enough space between the door zone of a parked vehicle and a bus traveling in the right side travel lane.

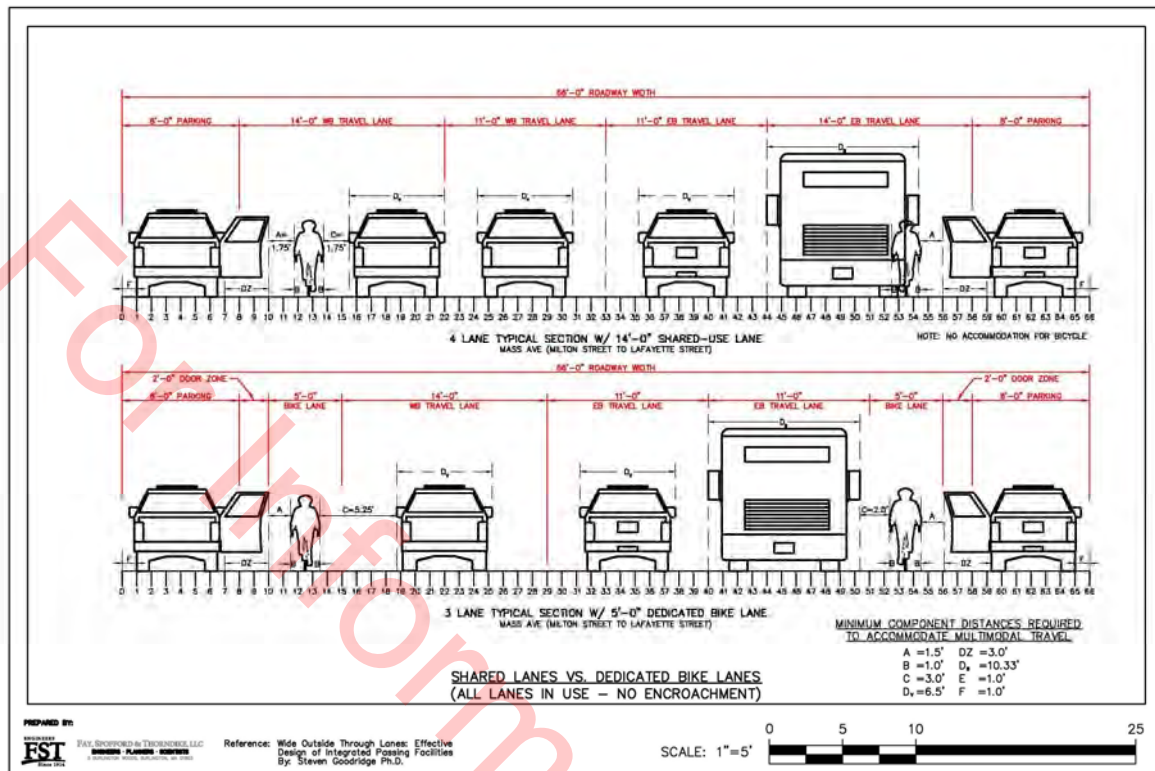


Figure 8 – Shared Use Lanes vs. Bike Lanes (No Encroachment)

Based on actual field observations, significantly more vehicles passing bicycles on the left encroach into an adjacent travel path from a wide lane shared use facility compared with a dedicated bike lane facility. If a vehicle is able to encroach without conflicting with other vehicles this practice can actually be thought of as a positive for bicyclists since the driver has opted to afford additional “overtaking” clearance.

In the particular case of the Massachusetts Avenue corridor, however, the continual practice of encroaching into an adjacent travel path to pass bicyclists implies that a marked four lane facility would actually operate more like a three lane facility since there would be insufficient space available for a second vehicle traveling in the same direction (see Figure 9 below).

Most likely, vehicles traveling in the same direction would need to be traveling in a staggered fashion to avoid conflicts. This is even more problematic when there is parking allowed along the corridor since the door zone of parked vehicles could potentially interfere with a bicyclist’s path of travel if drivers choose not to encroach into adjacent travel lanes. When encroachment does occur it becomes obvious that both facilities will operate quite similarly despite the difference in cross section.

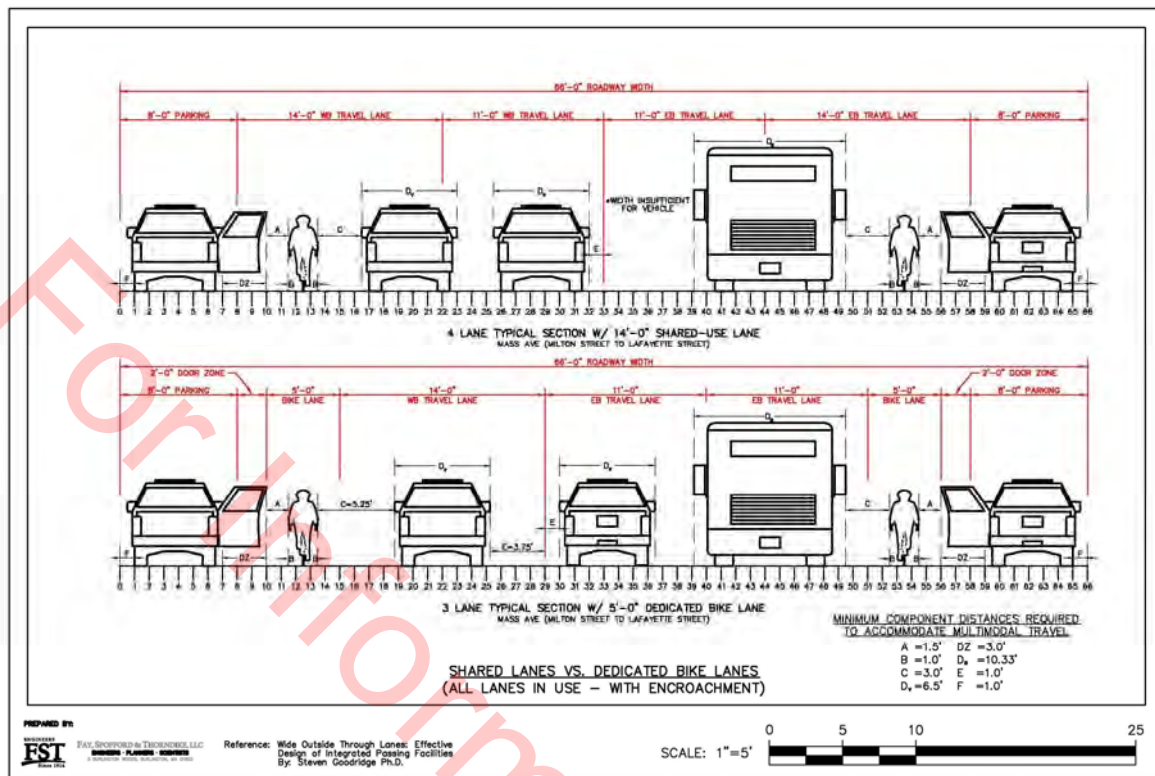


Figure 9 – Shared Use Lanes vs. Bike Lanes (With Encroachment)

3.4 Proposed Alternatives to Improvements

3.4.1 Lake Street Widening

In earlier design review meetings with MassDOT District 4 representatives, it was requested that FST investigate widening the Lake Street approach from Freeman Street to Massachusetts Ave to improve Level of Service at the intersection and shorten vehicle queues on Lake Street. Traffic analysis indicates the overall Level of Service would improve from LOS E to LOS C for both the 2018 and 2028 future Build conditions. However, in our efforts to better understand the cause of the Lake Street queuing problem we conducted a series of actual field investigations during both the morning and evening peak hour periods. In both periods we discovered the operational inefficiencies and delays at the Lake Street/Brooks Avenue intersection, combined with significant numbers of pedestrian and bicycle crossings of Lake Street in the immediate vicinity, particularly when the Hardy School is in session, lead to confusion and severe congestion along the Lake Street corridor. This congestion is a primary cause of the southbound AM peak hour queue along Lake Street, which often extends from Brooks Avenue to a point on Massachusetts Avenue between Lake Street and Orvis Road. Obviously, this has significant consequences for operations at the Massachusetts Avenue/Lake Street intersection where traffic turning left onto Lake Street is unable to do so resulting in westbound delays and capacity constraints along Massachusetts Avenue.

Likewise, similar congestion and delay in the vicinity of the Lake Street/Brooks Avenue intersection, together with numerous, uncontrolled bicycle crossings at the nearby Minuteman Rail Trail, often results in northbound PM peak hour queues that extend from Brooks Avenue to the Route 2 ramps on Lake Street. Once traffic at the end of the queue was able to get through the Lake Street/Brooks Avenue intersection, which typically took about 10 minutes or more, the delay at the Massachusetts Avenue/Lake Street intersection was less than two minutes. In fact, it was observed that nearly all of the vehicles in that queue were able to get through the intersection in just one cycle.

This unique situation where high numbers of vehicles, pedestrians and bicyclists are concentrated within one controlling intersection along Lake Street demonstrates that improved traffic operations at the Massachusetts Avenue/Lake Street intersection is not the only determining factor in deciding what is best for the Lake Street corridor as a whole. Clearly there are operational problems along Lake Street that can not be adequately addressed by this project and more study is needed. It is unclear exactly what benefits or travel time savings would be achieved by the widening of the Lake Street northbound approach to Massachusetts Avenue unless the problems at Brooks Avenue and the Minuteman Rail Trail are also addressed at the same time. In a letter from the Arlington Town Manager, dated July 20, 2010 to the MassDOT District 4 Highway Director, the Town recommended keeping Lake Street at its present width, thus, maintaining existing sidewalk widths and landscape areas containing mature trees to protect the quality of life of residents living along this section of the corridor. In any event, FST examined the implications of widening Lake Street and determined the following would be required along Lake Street between Freeman Street and Massachusetts Avenue:

- Removal of four (4) healthy public shade trees (18" to 30" diameter)
- Removal of an existing 7-foot wide landscape buffer along the east side of Lake Street
- Relocation of 2 to 4 utility poles and overhead wires - most likely undergrounding of these utilities will be necessary due to the proximity of existing homes
- Relocation of at least one existing drainage structure (catch basin)
- Two foot reduction of the existing 5-foot wide landscape buffer along the west side of Lake Street
- Reduction in existing sidewalk width along the east side of Lake Street from 12.5 feet to 7 feet for approximately 160 feet
- Reduction in existing sidewalk width along the west side of Lake Street from 10.5 feet to 8 feet for approximately 250 feet
- Reduction in existing shoulder widths from 3 feet to 2 feet affecting minimum bicycle provisions

FST estimates these necessary measures would cost between \$450,000-\$500,000 to construct.

As stated above, FST's traffic engineers conducted peak hour field observations of the Lake Street corridor and reviewed alternative commuter routes and driving habits along Lake Street to gain a general understanding of the range of issues and operational problems that contribute to the Lake Street queuing problem. A combination of inefficient signal phasing and timing at the Brooks Avenue intersection, constant use of the pedestrian activated walk signal when school is in session and/or the uncontrolled (i.e., unsignalized) bicycle and pedestrian use of the Minuteman Rail Trail all contribute significantly to random delays along the Lake Street corridor. Brooks Avenue and the Minuteman Rail Trail intersection are only 175 feet apart. These uncoordinated interruptions at the trail and Brooks Avenue contribute to delays along the corridor. Possible solutions at these locations may include installing one signal system to control both locations, a tunnel or a bridge for the trail. In the future, the Town of Arlington, in concert with MassDOT guidance, may want to consider conducting a separate Lake Street corridor study that encompasses the entire area from Route 2 to Massachusetts Avenue to determine appropriate improvement measures that are both operationally and environmentally acceptable.

It should be mentioned that the existing Lake Street approach operates as a two-lane section for approximately 75 feet although the roadway is not currently delineated as two lanes. The approach is processing more than a single lane of approach volume. It would be inaccurate for the traffic analysis to reflect a two-lane approach on Lake Street. To address this 'short lane' situation, FST produced a Technical Memorandum that addresses the operational characteristics associated with this methodology and included this information in the Appendix to this report.

3.4.2 Massachusetts Avenue EB Left Turns at Winter Street

During the preliminary evaluation of Massachusetts Avenue corridor alternatives, numerous layouts, signal designs and lane configurations were considered for the Massachusetts Avenue/Winter Street/Lake Street intersection. Graphics produced in the preliminary planning of this intersection are included in the Appendix. Key layout scenarios for consideration included:

- Bringing Winter Street into the intersection and controlling all movements (including Lake Street) by signal control. A graphic of this alternative is available in the Appendix to this report.
- Maintaining Winter Street as an unsignalized intersection, and keeping the Massachusetts Avenue eastbound left turns out of the signal system.
- MassDOT representatives also developed a conceptual plan, which showed curbside parking in the intersection, making Chandler Street two-way and creating a 4-phase signal operation.

If Winter Street were to be brought into the signalized intersection, the eastbound stop line would need to be moved approximately 40-50 feet to the west, resulting in a westerly shift of the crosswalk as well and, thus, creating a problematic condition for the bus stop directly in front of the Capitol Theatre on Massachusetts Avenue and the right turn lane onto Lake Street. This shift would also have significant implications on existing parking accommodations. In addition, longer mast arms would be required and additional signal equipment would be necessary to

accommodate the larger intersection. Consequently, following discussions with Town officials, this alternative was dismissed from further consideration and maintaining Winter Street as an unsignalized intersection as it is today was ultimately recommended.

3.4.3 Preliminary Massachusetts Avenue Corridor Alternatives

Following the collection and analysis of the traffic data obtained in October 2008, a preliminary corridor improvement plan was developed. Key intersections identified along the corridor included the following locations:

- Massachusetts Ave/Foster St/Linwood St(signalized)
- Massachusetts Ave/Bates Rd/Marion Rd
- Massachusetts Ave/Grafton Street/Orvis Rd
- Massachusetts Ave/Winter St/Lake St(signalized)
- Massachusetts Ave/Teel St/Thorndike St (signalized)
- Massachusetts Ave/Alewife Brook Parkway (Route 16) (signalized)

Traffic analysis indicated two of the four signalized locations identified above did not satisfy traffic signal warrants as outlined in the Manual on Uniform Traffic Control Devices (MUTCD). These locations included both the Massachusetts Ave/Foster St/Linwood St intersection and Massachusetts Ave/Teel St/Thorndike St intersection. Pedestrians and bicycles were included in the warrant analysis of these two locations and the intersections still did not satisfy criteria. As a result, FST initially recommended the traffic signals be removed at these two locations and the intersections be converted to unsignalized locations.

To assist with pedestrian crossings along the corridor, a new pedestrian signal was initially proposed at the Trinity Church, near Varnum Street. In addition, a new traffic signal was proposed at the Massachusetts Ave/Bates Rd/Marion Rd intersection and an upgraded signal system included at Massachusetts Ave/Lake St intersection. This plan was presented to MassDOT representatives in Boston on February 24, 2009 and did not receive any adverse comments. Included with this preliminary plan were key selected traffic calming and pedestrian-friendly elements such as:

- Reduced roadway cross section, curb to curb
- Reduced number of travel lanes on Massachusetts Ave
- Sidewalk neckdowns
- Median islands (painted or raised)
- Improved channelization
- Dedicated bike lanes in each direction
- Organized parking stalls
- Improved pedestrian crossing opportunities.

Preliminary plans and cross sections of this early concept are included in the Appendix to this report.

As a result of community and local concerns regarding the removal of existing traffic signals at two intersection locations that no longer satisfy MUTCD signal warrants, a meeting was held with MassDOT District 4 officials on May 29, 2009. The objective was to develop a solution to community concerns regarding these unwarranted signal systems. As a result of this meeting and follow-up discussions with both Town and MassDOT officials, it was decided the traffic signals could remain at the two locations, but the signal equipment would be upgraded as part of this corridor project and the equipment locations would be subject to current MUTCD criteria. This revision to the initial corridor plan then served as the basis for the development of a new corridor plan.

4.0 RECOMMENDATIONS

As previously noted, there are some significant delays at area signalized and unsignalized intersections. The existing traffic signals are operating inefficiently with improper timing and phasing, lane capacity, and configuration. The proposed design calls for reducing the Massachusetts Avenue cross-section where appropriate and providing turn lanes at intersections with side streets to enhance safety. Graphics showing the 2018 and 2028 No Build and Build queuing conditions are included in the Appendix and in some cases show longer queues during the Build condition due to unwarranted signals. In addition, there are unsignalized locations that are also candidates for improvement. Noted below are our recommendations for the corridor.

4.1 Massachusetts Avenue/Linwood Street/Foster Street and Massachusetts Avenue/Bates Road/Marion Road

In a meeting with MassDOT officials, it was determined that the Linwood Street/Foster Street intersection will stay under signal control. Since the current phasing and timing is inefficient for the Massachusetts Avenue corridor, changes will be made to the timing and phasing of the Foster Street/Linwood Street signal, and it will be interconnected with a proposed new signal at Massachusetts Ave/Bates Road/Marion Road. The Massachusetts Ave/Bates Rd/Marion Rd location will include split phasing for the side streets and improvements will include a shared left turn lane on Massachusetts Avenue and separate left and right turn lanes on Bates Road. The 2018 and 2028 Build analysis results of these two locations are shown in Table 17 and Table 18, respectively. It should be noted that traffic on Massachusetts Avenue will predominately have a green indication at the intersection of Foster and Linwood Streets, only having to stop for the occasional pedestrian or vehicle on the side street. This is reflected in average delays of less than 10 seconds for eastbound and westbound traffic during peak periods. On those few occasions when Mass. Ave traffic is stopped, queues will form quickly but will dissipate just as quickly after the light turns green. It also should be noted that the estimated queue lengths presented in the summary tables are based on equations that do not take into account coordination with nearby signals. In this particular case, actual queues on Massachusetts Avenue between these two signals are expected to be considerably less than those reported in the summary table.

Presently, during both morning and evening peak hour periods, turning maneuvers out of Bates Road and Marion Road operate with long delays and constrained operations. Traffic

analysis indicates the intersection of Massachusetts Ave/Bates Rd/Marion Rd operates at a Level of Service (LOS) F, an undesirable condition. When LOS F occurs, drivers tend to accept shorter gaps in the through traffic stream (i.e. taking chances to enter the mainline flow) and sometimes initiate what is called a “Boston left turn” (a side street left-turning vehicle exits, blocks off one lane of opposing through volume and enters the preferred direction of travel on the main street). This creates a safety concern and a potential for side or rear end collisions.

**TABLE 17 – 2018 Build Level of Service
Foster Street/Linwood Street and Bates Road/Marion Road**

		AM Peak					PM Peak					Available Storage ⁴
Intersection	Movement	Delay ¹	LOS	v/c ²	Queue ³		Delay	LOS	v/c	Queue ³		
Signalized Intersection												
Linwood Street/Foster Street												
	Westbound Lt	5.8	A	0.22	2	8	0.5	A	0.06	0	2	90
	Westbound Th	6.5	A	0.64	53	224	4.0	A	0.67	19	689	370
	Eastbound Th/Rt	37.7	D	1.00	410	934	6.4	A	0.70	165	772	480
Linwood Street Northbound		43.7	D	0.27	18	63	40.0	D	0.32	18	58	500+
Foster Street Southbound		107.5	F	0.93	65	160	73.9	E	0.83	59	65	500+
	OVERALL	29.9	C	0.99			10.4	B	0.71			
Bates Road/Marion Road												
	Marion Road Northbound	49.0	D	0.26	10	11	43.7	D	0.31	13	31	300
	Bates Road Southbound Lt	63.9	E	0.89	188	316	40.3	D	0.58	75	120	500+
Bates Road Southbound Th/Rt		33.5	C	0.09	2	0	34.8	C	0.13	6	0	100
	Mass Ave WB Lt/Th	19.9	B	0.75	287	660	11.9	B	0.70	269	476	620
	Mass Ave WB Rt	2.5	A	0.07	0	4	5.2	A	0.15	10	35	110
	Mass Ave EB Lt/Th/Rt	13.8	B	0.83	327	548	6.3	A	0.55	113	160	370
	OVERALL	22.6	C	0.82			12.7	B	0.66			

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane (25 feet per vehicle).

4. Measured in feet

To control traffic movements at an intersection and improve safety, use of a traffic signal is one consideration, assuming the necessary traffic design criteria are satisfied. A traffic signal can only be installed if it meets one or more traffic signal warrants as outlined in the *Manual on Uniform Traffic Control Devices (MUTCD)*. As was discussed in a previous section of this report, the Massachusetts Ave/Bates Rd/Marion Rd intersection meets four of the eight warrants.

It is FST's recommendation to install a new traffic signal at this intersection for the following reasons:

Bates Road is an Urban Collector, carrying approximately 4,500 vehicles per day. This road connects with Massachusetts Avenue, a Principal Urban Arterial carrying approximately 20,000 vehicles per day, at an unsignalized intersection. Existing traffic volumes turning from Bates Road onto Massachusetts Avenue at this unsignalized location exceeds the capacity of the approach by over four times, thus, creating an unsafe condition resulting in potential conflicts at

the intersection. Consequently, Bates Road was the logical location for a new traffic signal to safely and effectively manage traffic flows on both Bates Road and Massachusetts Avenue during commuting peak hour periods.

**TABLE 18 – 2028 Build Level of Service
Foster/Linwood and Bates Road/Marion Road**

Foster/Linwood and Bates Road/Marion Road												
		AM Peak					PM Peak					Available Storage ⁴
Intersection	Movement	Delay ¹	LOS	v/c ²	Queue ³		Delay	LOS	v/c	Queue ³		
					50%	95%				50%	95%	
Signalized Intersection												
Linwood Street/Foster Street												
	Westbound Lt	8.7	A	0.31	2	8	1.0	A	0.08	0	2	90
	Westbound Th	7.0	A	0.67	56	251	6.1	A	0.79	22	740	370
	Eastbound Th/Rt	51.1	D	1.05	511	1002	13.6	B	0.83	185	829	480
	Linwood Street Northbound	43.1	D	0.28	19	65	40.6	D	0.35	19	62	500+
	Foster Street Southbound	115.2	F	0.95	69	167	96.7	F	0.92	63	69	500+
	OVERALL	37.8	D	1.04			16.0	B	0.80			
Bates Road/Marion Road												
	Marion Road Northbound	49.4	D	0.29	11	12	45.4	D	0.38	14	33	300
	Bates Road Southbound Lt	61.7	E	0.89	198	336	56.1	E	0.77	83	179	500+
	Bates Road Southbound Th/Rt	32.8	C	0.10	2	25	37.1	D	0.15	7	25	100
	Mass Ave WB Lt/Th	22.9	C	0.80	316	716	15.8	B	0.77	240	717	620
	Mass Ave WB Rt	2.5	A	0.07	0	4	2.9	A	0.15	4	20	110
	Mass Ave EB Lt/Th/Rt	17.32	B	0.92	473	576	8.6	A	0.66	95	420	370
	OVERALL	24.9	C	0.89			16.1	B	0.75			

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane (25 feet per vehicle).

4. Measured in feet

In the comparison of the 2018 and 2028 No Build to 2018 and 2028 Build conditions at the intersection of Massachusetts Avenue with Foster and Linwood Streets, it should be pointed out that while Level of Service (LOS) technically drops this location will still operate at an overall acceptable LOS in the Build conditions. The increased cycle length (from 60 seconds to 100 seconds) and coordination with the Bates Road/Marion Road signal, adds some loss time to the system. However, the Massachusetts Avenue westbound approach to the intersection remains at LOS A during both weekday peak periods, while the eastbound approach will be an acceptable LOS D in the AM and LOS B in PM Peak in the Build condition. The proposed signal phasing and coordination provides priority to the arterial roadway, which will result in increased delay for the side streets. Under the future Build conditions, vehicle queues are expected to be slightly longer on Massachusetts Avenue, which can be attributed to the fact that the same number of vehicles are now stopped in one rather than two lanes. However, these queues will be of short duration and cleared during the following green signal phase when provided appropriate green time. Once the intersection is operational and coordinated with the new signal at the Bates Road/Marion Road intersection the signal timings will be field adjusted such that vehicle queues are minimized including the calculated westbound queue such that it will not exceed the

available storage. A graphic illustrating the vehicle queues for the key movements at this location can be found following the Synchro analysis printouts in the Appendix.

Existing and future No Build conditions at the intersection of Massachusetts Avenue with Bates Road and Marion Road show a LOS F or congested condition for the side street traffic. With signalization proposed as part of the build conditions, overall operations improve to LOS B/B in 2018 and LOS C/B in 2028 during the AM/PM peak hours. All approaches are expected to operate at acceptable LOS, with reserve capacity provided for each intersection movement and the intersection as a whole. The Massachusetts Avenue eastbound vehicle queue length will not back up into the Massachusetts Avenue/Linwood Street/Foster Street intersection. Side street vehicle delays will improve to around a minute during the peak period. A graphic illustrating the vehicle queues for the key movements at this location can be found following the Synchro analysis printouts in the Appendix.

Benefits of a Massachusetts Ave/Bates Rd/Marion Rd Traffic Signal

- A new traffic signal would control all movements at the intersection and provide for efficient and orderly traffic flow all day long;
- This new traffic signal would be coordinated (i.e., interconnected) with the upgraded signal at the Foster Street/Linwood Street intersection and would provide orderly/platooned flow along the corridor;
- The new traffic signal would have an emergency pre-emption feature to expedite emergency vehicle traffic in the immediate area reducing response times;
- Vehicles from both Bates Road and Marion Road would be able to enter Massachusetts Ave more safely and in a protected manner;
- Pedestrian crossings on Massachusetts Avenue, Bates Road and Marion Road would be conducted in a safe manner under a designated pedestrian interval with protected pedestrian crossing times. This interval would be actuated by a pedestrian (via push button) on demand;

If the Massachusetts Ave/Bates Rd/Marion Rd intersection were to remain unsignalized, the following issues or concerns would remain unresolved, further deteriorating future conditions (i.e., 2028) at the intersection:

Consequences of Maintaining Unsignalized Intersection at Mass. Ave./Bates Road/Marion Road

- None of the adjacent intersections with Massachusetts Avenue (Tufts Street, Elmhurst Road, Harlow Street or Everett Street) would meet traffic signal warrants (as outlined by the MUTCD federal criteria), and traffic flow in the immediate area along Massachusetts Avenue could only be controlled by a nearby signal at the Foster Street/Linwood Street intersection;
- Level of Service F conditions would still remain during both AM and PM peak hour periods at the intersection, continuing long delays on both Bates Road and Marion Road;
- Uncontrolled turning maneuvers to and from Massachusetts Avenue would continue at the intersection, creating potentially unsafe travel conditions;

- There would be no signal control for pedestrians as the warrants for a pedestrian signal alone would not be satisfied at this location, therefore, pedestrians would continue to cross Massachusetts Avenue as they do today, without signalized control and a lack of marked crosswalks.

4.2 Massachusetts Avenue/Orvis Road/Grafton Street

The recommendation for this location is for the intersection to remain as an unsignalized intersection but improve the lane configuration on Massachusetts Avenue to better accommodate added traffic volumes on Massachusetts Avenue. The Orvis Road approach would remain unchanged with parking on the east side of Orvis Road also remaining. The 2018 and 2028 Build peak hour analysis results are shown in Table 19 and Table 20, respectively.

TABLE 19 – 2018 Build Level of Service-Orvis Road and Grafton Street

		<u>AM Peak</u>		<u>PM Peak</u>	
Massachusetts Avenue (WB/EB)					
Intersection	Movement	Delay ¹	LOS v/c ²	Delay ¹	LOS v/c ²
<i>Unsignalized Intersection</i>					
<u>Orvis Road/Grafton Street</u>					
	Orvis Road Northbound	652.8	F 1.98	-	F 9.52

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

TABLE 20 – 2028 Build Level of Service-Orvis Road and Grafton Street

		<u>AM Peak</u>		<u>PM Peak</u>	
Massachusetts Avenue (WB/EB)					
Intersection	Movement	Delay ¹	LOS v/c ²	Delay ¹	LOS v/c ²
<i>Unsignalized Intersection</i>					
<u>Orvis Road/Grafton Street</u>					
	Orvis Road Northbound	814.0	F 2.31	-	F 14.12

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

4.3 Massachusetts Avenue/Lake Street/Winter Street

This intersection is to be upgraded to include the following key improvement measures:

- An exclusive westbound left-turn lane from Massachusetts Avenue onto Lake Street operating under protected signal control;
- An exclusive right-turn lane eastbound from Massachusetts Avenue onto Lake Street;

- Elimination of the pre-timed pedestrian phase in the signal cycle and replacing it with an actuated phase, an on-call phase; and
- Placement of an exclusive eastbound left-turn lane from Massachusetts Avenue onto Winter Street, operating without signal control.

Analysis results for 2018 and 2028 Build conditions are shown in Table 21 and Table 22, respectively.

TABLE 21 – 2018 Build Level of Service – Massachusetts Avenue and Lake Street

TABLE 21 2018 Data Level of Service Massachusetts Avenue and Lake Street												
Intersection	Movement	Delay ¹	LOS	AM Peak			PM Peak					Available Storage ⁴
				v/c ²	Queue ³		Delay ¹	LOS	v/c ²	Queue ³		
					50%	95%				50%	95%	
<u>Massachusetts Ave at Lake Street</u>												
	Northbound Lt/Th/Rt	77.1	E	1.04	391	551	50.1	D	0.94	287	524	500+
	Westbound Lt	31.1	C	0.75	57	204	21.4	C	0.69	57	140	120
	Westbound Th/Rt	25.6	C	0.78	250	584	31.7	C	0.88	279	681	500+
	Eastbound Th	48.2	D	0.95	289	500	25.3	C	0.70	165	344	400
	Eastbound Rt	51.1	D	0.89	184	387	22.1	C	0.32	46	122	90
	OVERALL	49.8	D	0.98			33.5	C	0.91			

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane.

4. Measured in feet

TABLE 22 – 2028 Build Level of Service – Massachusetts Avenue and Lake Street

Intersection	Movement	Delay ¹	LOS	AM Peak			PM Peak					Available Storage ⁴
				v/c ²	Queue ³		Delay ¹	LOS	v/c ²	Queue ³		
					50%	95%				50%	95%	
Massachusetts Ave at Lake Street												
	Northbound Lt/Th/Rt	93.1	F	1.09	456	588	60.2	E	0.99	307	559	500+
	Westbound Lt	34.3	C	0.78	62	221	23.8	B	0.73	60	149	120
	Westbound Th/Rt	27.4	C	0.81	266	619	37.2	B	0.92	302	728	500+
	Eastbound Th	50.8	D	0.96	294	508	28.5	C	0.72	173	360	400
	Eastbound Rt	58.9	E	0.93	196	412	22.5	B	0.34	49	128	90
	OVERALL	56.2	E	1.02			38.3	D	0.95			

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane.

4. Measured in feet

Existing and future No Build (2018/2028) conditions show a continued overall LOS F at this intersection during peak periods. With upgrades to the signal timing/phasing and modifications to approach lane arrangements, this intersection can improve to an overall LOS D/C in 2018 and LOC E/D in 2028 during the AM/PM peak hours. No Build projections show an intersection that would be 60% over capacity (capacity-constrained), thus creating congestion conditions or a bottleneck on the corridor. Implementation of the proposed improvements results in an intersection that operates at or below capacity during the commuting peak periods with

only the Lake Street approach having a volume-to-capacity ratio over 1.00. Due to additional environmental impacts, project costs and the desire of the Town to maintain the residential character of the area consistent with future planning initiatives, Lake Street is not recommended to be widened to solely improve traffic operations at the intersection. While the redesign and reallocation of the lane arrangements at the intersection lead to an overall improvement in operations and safety, there are some anticipated increases in vehicle queue lengths on Massachusetts Avenue. That has been accounted for in the design through provisions of storage for these vehicles along the corridor. In the case of the Massachusetts Avenue westbound approach, there are the same or fewer number of vehicles queued at the signal in the build case but the modification in lane arrangement results in a longer back of the queue for the westbound through lane only and not the left turn lane. This also allows for the left turn lane to end prior to Cleveland Street to accommodate turns onto Massachusetts Avenue from this side street. A graphic illustrating the vehicle queues for the key movements at this location can be found following the Synchro analysis printouts in the Appendix.

4.4 Massachusetts Avenue/Thorndike Street/Teel Street

In meetings with MassDOT officials, it was decided that this intersection will stay under signal control. Since the current phasing runs inefficiently, changes to the timing will be made.

It was determined that Massachusetts Avenue traffic will be given higher priority in order to process more cars through the signal. Under the new timing and phasing, Massachusetts Avenue movements will be given a minimum of 48 seconds for every cycle of the signal while Teel Street and Thorndike Street will have to wait until after the Massachusetts Avenue movements have cleared. Teel Street and Thorndike Street will only be given 12 seconds, including clearance intervals, since the volumes from those streets are so low. Analysis results for the 2018 and 2028 Build conditions are shown in Table 23 and Table 24, respectively.

TABLE 23 – 2018 Build Level of Service-Thorndike Street and Teel Street

TABLE 23 2016 Data Level of Service Thorndike Street and Teel Street																			
		AM Peak					PM Peak					Available Storage ⁴							
		Delay ¹	LOS	v/c ²	Queue ³		Delay	LOS	v/c	Queue ³									
Intersection	Movement				50%	95%				50%	95%								
Signalized Intersection																			
Thorndike Street/Teel Street																			
Thorndike Street Northbound		33.9	C	0.43	14	25	52.0	D	0.60	21	62	500+							
Teel Street Southbound		31.0	C	0.12	3	34	39.1	D	0.02	0	0	500+							
Mass Ave WB Th/Rt		7.7	A	0.63	71	440	9.5	A	0.76	134	755	500+							
Mass Ave EB Lt/Th		5.4	A	0.54	54	216	3.1	A	0.33	30	127	500+							
OVERALL		8.0	A	0.61			8.9	A	0.75										

1. Delay in seconds per vehicle.
2. Volume to capacity ratio.
3. Queue in feet per lane (25 feet per vehicle).
4. Measured in feet

TABLE 24 – 2028 Build Level of Service-Thorndike Street and Teel Street

		AM Peak					PM Peak					Available Storage ⁴	
Intersection	Movement	Delay ¹	LOS	v/c ²	Queue ³		Delay	LOS	v/c	Queue ³			
					50%	95%				50%	95%		
<i>Signalized Intersection</i>													
<u>Thorndike Street/Teel Street</u>													
	Thorndike Street Northbound	35.3	D	0.43	18	25	54.1	D	0.62	22	65	500+	
	Teel Street Southbound	32.7	C	0.12	4	36	39.1	D	0.02	0	0	500+	
	Mass Ave WB Th/Rt	7.4	A	0.61	88	404	10.8	B	0.80	150	813	500+	
	Mass Ave EB Lt/Th	5.5	A	0.54	70	240	3.2	A	0.34	32	137	500+	
	OVERALL	8.1	A	0.59			9.7	A	0.78				

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane (25 feet per vehicle).

4. Measured in feet

This intersection will essentially see no change in operating conditions with the proposed improvements, continuing to operate at an overall LOS A during both peak periods. While there is no meaningful change in estimated queues lengths on the eastbound approach the reduction in the number of travel lanes will result in some increase in the westbound direction. However, very low delays and excess capacity, evidenced with v/c ratios less than 1.00 indicates that these westbound queues will be of short duration, dissipating shortly after the signal turns green and will not impact mobility along the corridor. A graphic illustrating the vehicle queues for the key movements at this location can be found following the Synchro analysis printouts in the Appendix.

4.5 Massachusetts Avenue/Alewife Brook Parkway

The busiest intersection in the study area, Massachusetts Avenue/Alewife Brook Parkway, operates at LOS E/D for the 2008 existing peak periods with long vehicle queues calculated on all approaches and LOS F on many of the approaches for the peak periods. This intersection was also determined to have near or over-capacity conditions (i.e. v/c near 1.00). During field observations, it was noted that some of the lane approaches do not clear the green signal indication during the peak periods and there are long vehicle queues on all approaches. Recent crash rate analysis indicates that this intersection has a crash rate close to the statewide crash rate.

This intersection is under control of the Department of Conservation and Recreation (DCR). It was brought to our attention that the City of Cambridge occasionally makes adjustments to the timing of the signal and maintains the equipment although MassDOT District 4 officials were not aware the City made adjustments to this signal. On November 18, 2008 a meeting was held with City of Cambridge officials to discuss possible improvement measures to this intersection. In the meeting, the City indicated the controller was not timed properly during our original traffic count period, as the control was not adjusted for daylight savings time. The City indicated they have ordered a new controller. A second meeting was held on May 22, 2009 with City of Cambridge officials to discuss this intersection further.

On March 23, 2010, additional discussions were held with the City of Cambridge traffic engineer who acknowledged this intersection is presently at a capacity-constrained condition and no geometric improvements are possible to increase capacity without significant impacts to parkland, the Alewife Brook and bridge over the brook. A new controller (EP 300) was purchased by the City of Cambridge and subsequently installed and some operational improvements are noted. However, these improvements have not been quantified. The City does not foresee any alternative to improving LOS through modifications to signal phasing (the intersection presently operates with quad phasing) and recommends the present protective/permissive phasing remain in place. Nevertheless, we would like to offer several possible improvement suggestions (short and long-term) that may beneficially affect traffic operations:

- Install loop detectors in the 4 left turn lanes to allow turn volumes to be more thoroughly processed for the day. That is, the low volume left turn lane would shut off to allow the opposing through lane to be released, improving signal efficiency. This loop installation will involve saw cutting pavement for the loops and connecting to hand holes. While this measure will not change the phasing, it may allow the signal to operate more efficiently and convert to priority phasing where vehicle demand exists.
- One possible method to increase green time for all approaches would involve a reallocation of pedestrian crossing time. This could be accomplished by providing for a LPI (leading pedestrian interval) with actuation. Presently there is a 23 second flashing walk/don't walk, which is preferred by the City of Cambridge. Technically this time could be reduced, thus adding green time to vehicles at the intersection. However, the City has indicated that the Matignon School is nearby and this measure will likely not be favorable from a political point of view. As a result of this discussion, FST does not recommend reducing the walk time to benefit vehicular traffic flow.
- Also to improve safety at the intersection, signal back plates should be added to the Massachusetts Avenue approaches to the intersection, as the solar glare is significant, particularly in the AM peak hour driving towards Cambridge.
- The mast arms for the exclusive left turn lanes on all approaches are not displayed over the left turn lane. The mast arms should be 35-foot mast arms. The mast arm on the westbound approach on Massachusetts Ave is a doghouse. This equipment should be upgraded. Proper signal display will improve traffic operations and enhance safety.
- For the long-term, a joint effort should be established by the Town of Arlington and the City of Cambridge, working together with the Boston MPO and MassDOT District 4, to have this intersection placed on the Transportation Improvement Program (TIP) for eventual improvement. It may be appropriate, as part of the on-going studies in the Alewife/Route 2 area, to include the Alewife Brook Parkway corridor to determine short and long-term needs at this intersection.

An alternative suggested by MassDOT District 4 officials was to alter the phasing of the intersection. This alternative presented by District staff considered split phasing for the approaches. A Sensitivity analysis of this suggested phasing modifications indicated that traffic operations would not be improved and as a result, altering the phasing of the intersection is not recommended.

Another alternative considered by District 4 staff included provision of double left-turn lanes on Massachusetts Ave to Alewife Brook Parkway to process additional turning volumes. Based on the amount of through volume, lack of room for additional lanes, and the absence of a 30 foot-wide receiving area for dual left-turn lanes, this suggested improvement is not recommended.

This intersection is capacity constrained, so there are limited physical improvements that can be implemented. As a result of several coordination meetings and follow-up discussions with the City of Cambridge, revised signal timings are proposed for this intersection. The signal phasing remains unchanged. Analysis results for the 2018 and 2028 Build condition are shown in Table 25 and Table 26, respectively.

TABLE 25 – 2018 Build Level of Service – Massachusetts Avenue/Alewife Brook Parkway

TABLE 23 2010 DATA LEVEL OF SERVICE - MASSACHUSETTS AVENUE/ALEWIFE BROOK PARKWAY												
Intersection	Movement	Delay ¹	LOS	AM Peak			PM Peak					Available Storage ⁴
				v/c ²	Queue ³		v/c ²	Delay ¹	LOS	Queue ³		
					50%	95%				50%	95%	
<u>Massachusetts Ave - Alewife Brook Parkway</u>												
	Westbound Lt	106.5	F	1.01	234	415	78.3	E	0.93	247	420	210
	Westbound Th/Rt	34.9	C	0.55	210	269	36.2	D	0.62	239	311	500+
	Eastbound Lt	61.6	E	0.74	133	152	61.4	E	0.68	88	151	160
	Eastbound Th/Rt	63.4	E	0.97	383	523	58.9	E	0.89	260	370	500+
Alewife Brook Pkwy Northbound Lt		153.3	F	1.01	75	173	85.7	F	0.90	147	269	150
Alewife Brook Pkwy Northbound												
	Th/Rt	43.0	D	0.83	336	367	53.0	D	0.95	450	596	500+
	Parkway Southbound Lt	119.4	F	0.95	98	212	99.3	F	0.89	95	158	180
	Parkway Southbound Th/Rt	73.7	E	1.03	546	684	42.4	D	0.81	322	384	500+
OVERALL		64.4	E	1.00			53.9	D	0.91			

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane.

4. Measured in feet

TABLE 26 – 2028 Build Level of Service – Massachusetts Avenue/Alewife Brook Parkway

MASSACHUSETTS AVE/ALEWIFE BROOK PARKWAY												
Intersection	Movement	Delay ¹	LOS	AM Peak			PM Peak			Queue ³		Available Storage ⁴
				v/c ²	Queue ³		Delay ¹	LOS	v/c ²	Queue ³		
					50%	95%				50%	95%	
Massachusetts Ave - Alewife Brook Parkway												
	Westbound Lt	121.4	F	1.07	263	442	84.0	F	0.96	259	443	210
	Westbound Th/Rt	35.8	D	0.58	223	283	37.7	D	0.65	255	328	500+
	Eastbound Lt	63.1	E	0.77	139	159	64.0	E	0.71	92	158	160
	Eastbound Th/Rt	74.5	E	1.02	419	563	68.0	E	0.95	276	398	500+
Alewife Brook Pkwy Northbound	Lt	169.1	F	1.07	84	182	95.3	F	0.93	155	286	150
Alewife Brook Pkwy Northbound	Th/Rt	45.7	D	0.87	357	389	61.7	E	0.99	484	646	500+
	Parkway Southbound Lt	134.1	F	1.00	103	223	118.8	F	0.96	101	171	180
	Parkway Southbound Th/Rt	89.8	F	1.08	596	734	45.1	D	0.84	343	407	500+
OVERALL		73.9	E	1.05			60.2	E	0.95			

1. Delay in seconds per vehicle.

2. Volume to capacity ratio.

3. Queue in feet per lane.

4. Measured in feet

5.0 CONCLUSIONS

The new Massachusetts Avenue Corridor Plan enhances safety for all modes of travel within the corridor. However, to better understand what safety improvements are being provided in the design it is essential to first understand the operational and safety deficiencies of the corridor as it exists today.

Historically there have been safety issues for all users (bicyclists, pedestrians, vehicles and transit users). Historical accident data has shown there have been pedestrian fatalities along the corridor. Although more recent MassDOT accident data (2004-2008) indicated there were no fatalities, there have been vehicle collisions with bicycles and pedestrians, as well as accidents at intersections and along individual roadway segments (links between intersections). There are a number of factors contributing to the confusion and conflicts that plague the Massachusetts Avenue corridor. Selected safety issues are noted below:

- No travel lane definition or channelization;
- Speeding along the corridor;
- Thirty-three recorded accidents per year occur along the corridor;
- No defined bike lanes creating safety issues for bikers and vehicles;
- Excessive roadway width for pedestrian crossings;
- Long delays for side street traffic creating “Boston left turns” from the side streets;
- Poor traffic signal operation and inadequate timing and phasing;
- Lack of traffic signals;
- Double parking; and
- Parking in designated bus stops;

The Mass. Avenue Corridor Plan enhances safety for drivers, pedestrians and bicyclists by reallocating the public space within the roadway to improve and calm traffic flow, improve visibility and awareness and provide order for the various modes of travel. The design achieves all of these goals while maintaining efficient mobility and acceptable levels of service for projected 2028 vehicular traffic volumes. Safety and mobility benefits for users of the Massachusetts Avenue corridor resulting from the revised 25% design can be categorized as follows:

Drivers

- Traffic calming and safe, orderly flow is achieved as a result of striped travel lanes, dedicated bike lanes and striped parking stalls;
- Exclusive left turn lanes, where needed, safely accommodate turning movements;
- New and upgraded traffic signals improve operations, enhance safety and ease turning maneuvers at major intersections;
- New traffic signal pre-emption equipment for emergency vehicles improves safety and eliminates right of way conflicts at intersections. This new equipment would assist in the state's new "move over law";
- Increased sight distance, visibility and maneuverability is provided for drivers turning to and from side streets;
- Dedicated bike lanes provide additional space for parallel parking maneuvers to occur largely clear of the travel lanes as well as space for vehicles to pass other disabled (or double parked/loading) vehicles; and
- Reduces passing conflicts between vehicles and bicyclists and allows drivers to drive at a constant, safe pace without being slowed by bicyclists.

Pedestrians

- Crosswalk at Wyman Street is moved east of intersection to avoid conflicts with left turning vehicles;
- Crossing of travel/parking lanes at Wyman Street is 60% (40 feet) shorter due to raised, median island; bike lanes and sidewalk neckdowns;
- Crossing of travel/parking lanes at Foster Street is 45% (30 feet) shorter due to raised, median island; bike lanes and sidewalk neckdown;
- Crossing of travel/parking lanes at Linden Street is 30% (20 feet) shorter due to bike lanes and sidewalk neckdown;
- Crosswalk at Tufts Street is replaced with two, new crosswalks at Bates Road as part of new signal controlled intersection;
- Crossings of travel/parking lanes at Bates Road are 30% (20 feet) shorter than crossing at Tufts Street due to bike lanes and sidewalk neckdowns;
- New pedestrian crossing at Harlow Street is 45% (30 feet) shorter due to bike lanes and sidewalk neckdowns;
- Crossing of travel/parking lanes at Orvis Road is 55% (40 feet) shorter due to raised, median island; wider southerly sidewalk; bike lanes and sidewalk neckdowns (limit of Capitol Square Area);

- Both crossings of travel/parking lanes at Lake Street are 32% (25 feet) shorter due to wider northerly and southerly sidewalks; bike lanes and sidewalk neckdowns (Capitol Square Area);
- Crossing of travel/parking lanes at Marathon Street is 50% (33 feet) shorter due to raised, median island; bike lanes and sidewalk neckdowns (limit of Capitol Square area)
- New pedestrian crossing at Milton Street is 45% (30 feet) shorter due to bike lanes and sidewalk neckdowns;
- Crossing of travel/parking lanes at Varnum Street is 30% (20 feet) shorter due to bike lanes and sidewalk neckdown;
- Crosswalk at Thorndike Street is moved west of intersection as part of upgraded signalization and reconfiguration;
- Crossing of travel/parking lanes at Lafayette Street is 45% (30 feet) shorter due to bike lanes and sidewalk neckdowns;
- Pedestrians crossing the street are more visible to drivers as a result of dedicated bike lanes and increased sight lines at intersections and sidewalk neckdown locations; and
- Dedicated bike lanes may reduce bicycle riding on sidewalks and other pedestrian zones while providing a buffer between moving vehicular traffic and designated parking areas thereby increasing pedestrian comfort and safety.

Bicyclists

- Provision of dedicated space for bicyclists reduces bicycle-vehicular conflicts and provides awareness to both drivers and bicyclists that each mode of travel has a right to their respective sections of public space along the corridor;
- Bike lanes allow bicyclists to travel at their own pace, even when vehicular traffic may be more congested during peak hours of operation;
- Dedicated bike lanes help define road space and reduce aggravation and stress for bicyclists riding in traffic, particularly for those with less experience;
- Bike lanes help to better organize the flow of traffic and reduce the chance that motorists will stray into a cyclists' path of travel or vice versa;
- Provision of bike lanes supports and encourages bicycling as a means of transportation which helps to promote business patronage through improved pedestrian, bicycle and transit accommodation; and
- Dedicated bike lane markings may help to remind motorists to look for bicyclists when turning onto side streets or opening vehicle doors.

Other Benefits

- Bike lanes result in storm water discharge further from the travel lanes, reducing spray to pedestrians and bicyclists;
- Delivery vehicles have additional space to temporarily stop out of the main traffic stream; and
- Provision of bike lanes affords emergency vehicles additional space to maneuver around stopped traffic, reducing response time.

The proposed construction along the entire length of Massachusetts Avenue includes, but is not necessarily limited to the following: the reconstruction of existing cement concrete sidewalks; installation of new granite curb; drainage modifications and BMP provisions; pavement micro-milling and pavement overlay of the existing roadway surface; hydrant and water line relocations; bus stop provisions; dedicated bicycle lanes; sidewalk neckdowns and new crosswalks; ADA compliant cement concrete wheelchair ramps; installation of new traffic signal and pedestrian crosswalk equipment at four key intersections; new regulatory signs and pavement markings; informational or historical/cultural signs; public shade and street trees; landscape treatments; streetscape amenities including decorative paving, benches, trash receptacles, bicycle racks, etc., and pedestrian scale lighting within the East Arlington Business District. The revised preliminary construction cost estimate for this project is \$5.8 million which includes estimated costs for construction contingencies, inflation, police details, and MassDOT contract administration.

APPENDIX

**MASSACHUSETTS AVENUE
(Route 2A/3)**

Arlington, Massachusetts

Prepared for the

Town of Arlington

Prepared by

Fay, Spofford & Thorndike, LLC
Engineers • Planners • Scientists

Burlington, Massachusetts

November 2010

Level of Service Summary

Intersection Massachusetts Avenue/	2008 Existing	2018 No Build	2028 No Build	2018 Build	2028 Build
Linwood Street/Foster Street	A/A	A/A	A/A	C/B	D/B
Marion Road/Bates Road	F/F	F/F	F/F	C/B	C/B
Orvis Road/Grafton Street	F/F	F/F	F/F	F/F	F/F
Lake Street/Winter Street	F/F	F/F	F/F	D/C	E/D
Thorndike Street/Teel Street	A/A	A/A	A/A	A/A	A/A
Alewife Brook Parkway	E/E	E/E	F/E	E/D	E/E

APPENDIX

TRAFFIC COUNTS

INTERSECTION CRASH RATE FORMS

SIGNAL WARRANT ANALYSIS

CAPACITY ANALYSIS

CITED DOCUMENTS

TRAFFIC COUNTS

October 2008

N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000a1
 Site Code : 01300001
 Start Date : 10/21/2008
 Page No : 1

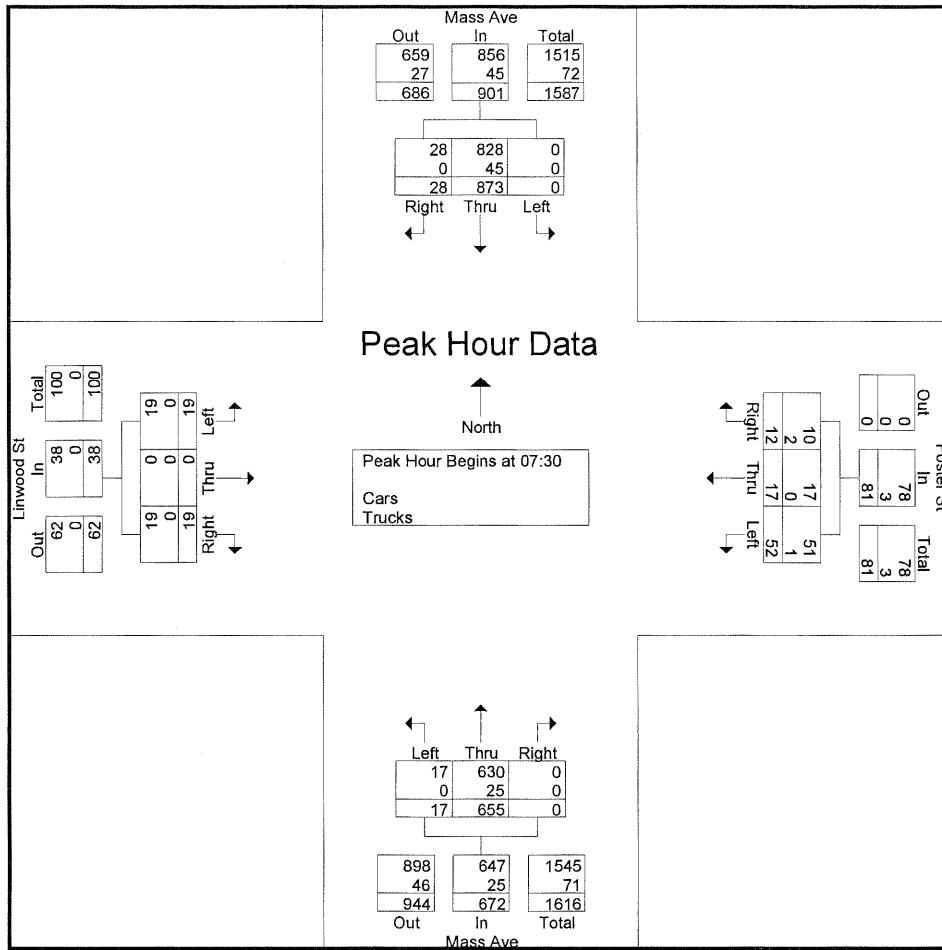
Groups Printed- Cars - Trucks

	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00	0	117	9	6	1	0	0	78	0	4	0	1	216
07:15	0	171	3	17	0	4	3	128	0	3	0	1	330
07:30	0	178	3	15	2	2	1	172	0	5	0	1	379
07:45	0	202	9	8	5	3	4	139	0	4	0	2	376
Total	0	668	24	46	8	9	8	517	0	16	0	5	1301
08:00	0	280	8	16	5	2	8	158	0	3	0	11	491
08:15	0	213	8	13	5	5	4	186	0	7	0	5	446
08:30	0	167	6	27	1	1	4	151	0	9	0	5	371
08:45	0	191	5	14	2	9	1	143	0	9	0	6	380
Total	0	851	27	70	13	17	17	638	0	28	0	27	1688
Grand Total	0	1519	51	116	21	26	25	1155	0	44	0	32	2989
Apprch %	0	96.8	3.2	71.2	12.9	16	2.1	97.9	0	57.9	0	42.1	
Total %	0	50.8	1.7	3.9	0.7	0.9	0.8	38.6	0	1.5	0	1.1	
Cars	0	1440	50	115	21	24	25	1102	0	44	0	32	2853
% Cars	0	94.8	98	99.1	100	92.3	100	95.4	0	100	0	100	95.4
Trucks	0	79	1	1	0	2	0	53	0	0	0	0	136
% Trucks	0	5.2	2	0.9	0	7.7	0	4.6	0	0	0	0	4.6

	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	178	3	181	15	2	2	19	1	172	0	173	5	0	1	6	379
07:45	0	202	9	211	8	5	3	16	4	139	0	143	4	0	2	6	376
08:00	0	280	8	288	16	5	2	23	8	158	0	166	3	0	11	14	491
08:15	0	213	8	221	13	5	5	23	4	186	0	190	7	0	5	12	446
Total Volume	0	873	28	901	52	17	12	81	17	655	0	672	19	0	19	38	1692
% App. Total	0	96.9	3.1		64.2	21	14.8		2.5	97.5	0		50	0	50		
PHF	.000	.779	.778	.782	.813	.850	.600	.880	.531	.880	.000	.884	.679	.000	.432	.679	.862
Cars	0	828	28	856	51	17	10	78	17	630	0	647	19	0	19	38	1619
% Cars	0	94.8	100	95.0	98.1	100	83.3	96.3	100	96.2	0	96.3	100	0	100	100	95.7
Trucks	0	45	0	45	1	0	2	3	0	25	0	25	0	0	0	0	73
% Trucks	0	5.2	0	5.0	1.9	0	16.7	3.7	0	3.8	0	3.7	0	0	0	0	4.3

Accurate Counts
978-664-2565

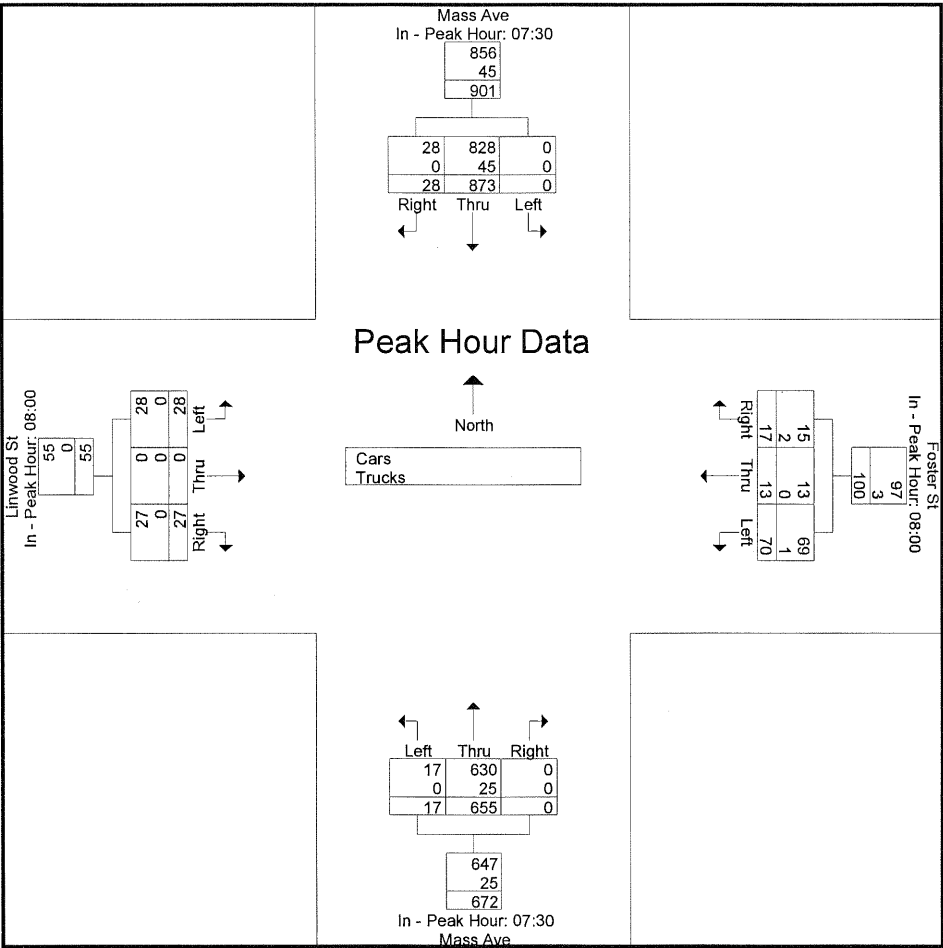
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Site Code : 01300001
Start Date : 10/21/2008
Page No : 2



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				08:00				07:30				08:00			
+0 mins.	0	178	3	181	16	5	2	23	1	172	0	173	3	0	11	14
+15 mins.	0	202	9	211	13	5	5	23	4	139	0	143	7	0	5	12
+30 mins.	0	280	8	288	27	1	1	29	8	158	0	166	9	0	5	14
+45 mins.	0	213	8	221	14	2	9	25	4	186	0	190	9	0	6	15
Total Volume	0	873	28	901	70	13	17	100	17	655	0	672	28	0	27	55
% App. Total	0	96.9	3.1		70	13	17		2.5	97.5	0		50.9	0	49.1	
PHF	.000	.779	.778	.782	.648	.650	.472	.862	.531	.880	.000	.884	.778	.000	.614	.917
Cars	0	828	28	856	69	13	15	97	17	630	0	647	28	0	27	55
% Cars	0	94.8	100	95	98.6	100	88.2	97	100	96.2	0	96.3	100	0	100	100
Trucks	0	45	0	45	1	0	2	3	0	25	0	25	0	0	0	0
% Trucks	0	5.2	0	5	1.4	0	11.8	3	0	3.8	0	3.7	0	0	0	0



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

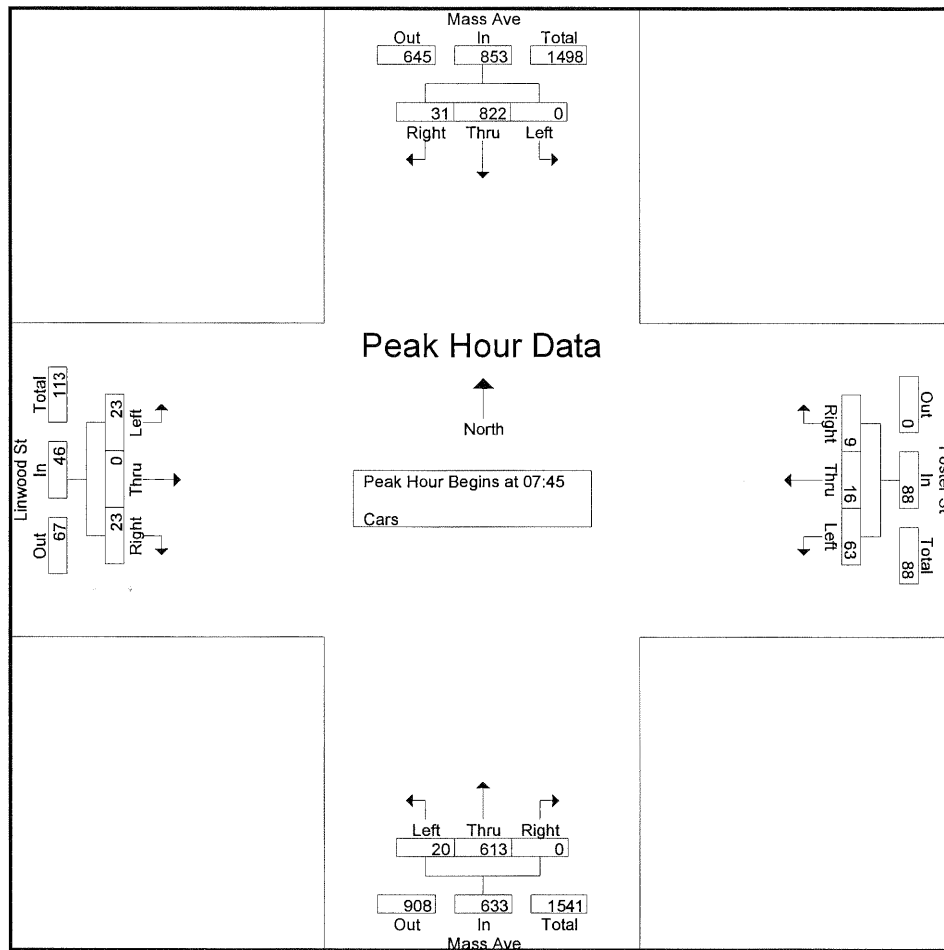
Accurate Counts
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File Name : 013000a1
 Site Code : 01300001
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	114	9	6	1	0	0	72	0	4	0	1	207
07:15	0	159	2	17	0	4	3	120	0	3	0	1	309
07:30	0	165	3	15	2	2	1	163	0	5	0	1	357
07:45	0	193	9	8	5	3	4	136	0	4	0	2	364
Total	0	631	23	46	8	9	8	491	0	16	0	5	1237
08:00	0	269	8	15	5	1	8	154	0	3	0	11	474
08:15	0	201	8	13	5	4	4	177	0	7	0	5	424
08:30	0	159	6	27	1	1	4	146	0	9	0	5	358
08:45	0	180	5	14	2	9	1	134	0	9	0	6	360
Total	0	809	27	69	13	15	17	611	0	28	0	27	1616
Grand Total	0	1440	50	115	21	24	25	1102	0	44	0	32	2853
Apprch %	0	96.6	3.4	71.9	13.1	15	2.2	97.8	0	57.9	0	42.1	
Total %	0	50.5	1.8	4	0.7	0.8	0.9	38.6	0	1.5	0	1.1	

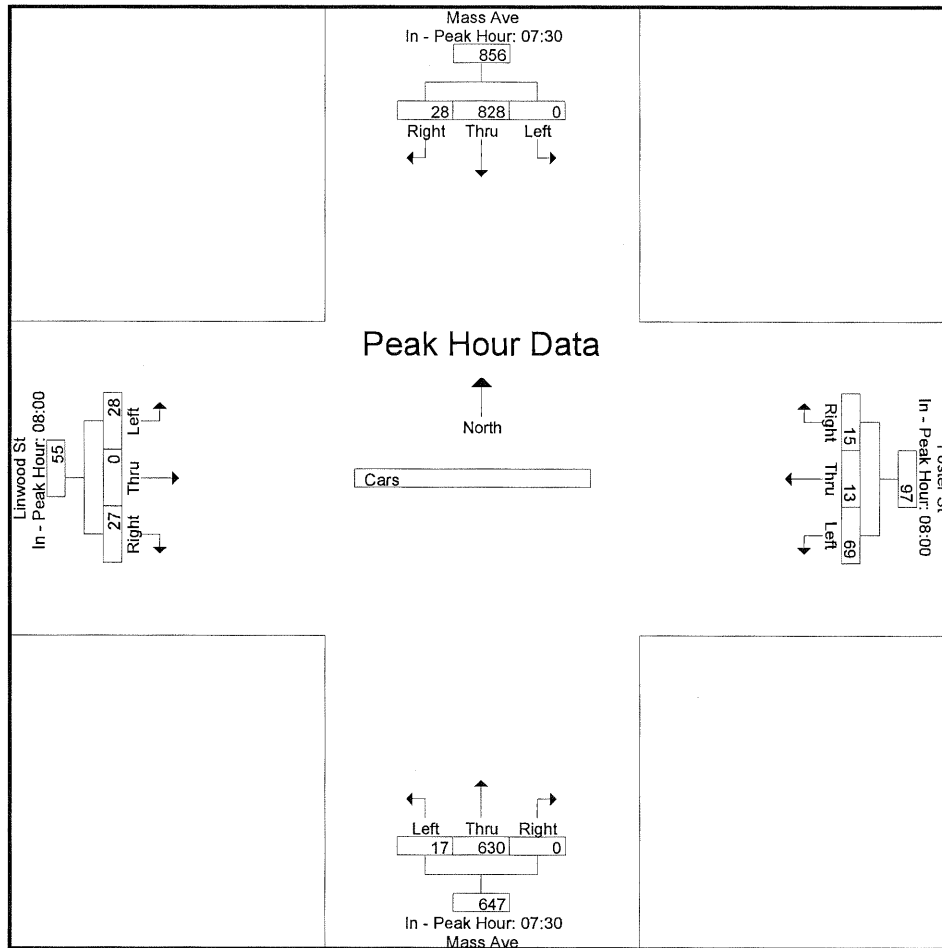
	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	193	9	202	8	5	3	16	4	136	0	140	4	0	2	6	364
08:00	0	269	8	277	15	5	1	21	8	154	0	162	3	0	11	14	474
08:15	0	201	8	209	13	5	4	22	4	177	0	181	7	0	5	12	424
08:30	0	159	6	165	27	1	1	29	4	146	0	150	9	0	5	14	358
Total Volume	0	822	31	853	63	16	9	88	20	613	0	633	23	0	23	46	1620
% App. Total	0	96.4	3.6		71.6	18.2	10.2		3.2	96.8	0		50	0	50		
PHF	.000	.764	.861	.770	.583	.800	.563	.759	.625	.866	.000	.874	.639	.000	.523	.821	.854



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				08:00				07:30				08:00			
+0 mins.	0	165	3	168	15	5	1	21	1	163	0	164	3	0	11	14
+15 mins.	0	193	9	202	13	5	4	22	4	136	0	140	7	0	5	12
+30 mins.	0	269	8	277	27	1	1	29	8	154	0	162	9	0	5	14
+45 mins.	0	201	8	209	14	2	9	25	4	177	0	181	9	0	6	15
Total Volume	0	828	28	856	69	13	15	97	17	630	0	647	28	0	27	55
% App. Total	0	96.7	3.3		71.1	13.4	15.5		2.6	97.4	0		50.9	0	49.1	
PHF	.000	.770	.778	.773	.639	.650	.417	.836	.531	.890	.000	.894	.778	.000	.614	.917



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

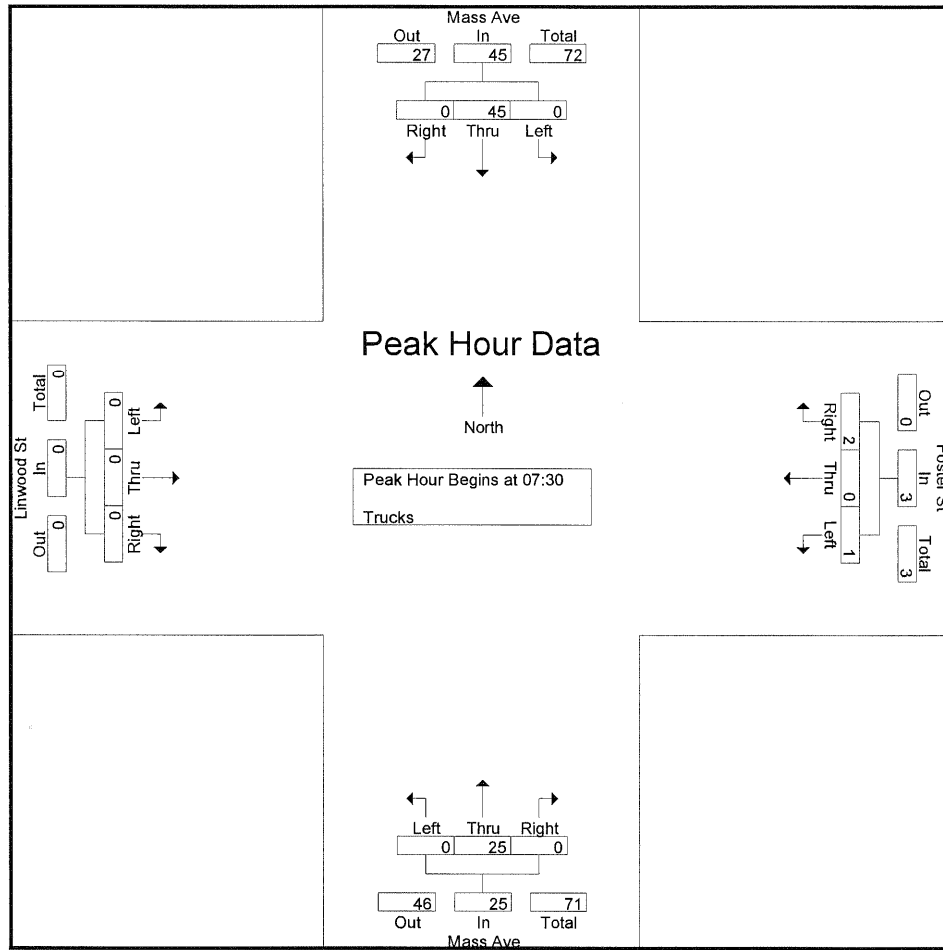
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File Name : 013000a1
 Site Code : 01300001
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Trucks

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	3	0	0	0	0	0	6	0	0	0	0	9
07:15	0	12	1	0	0	0	0	8	0	0	0	0	21
07:30	0	13	0	0	0	0	0	9	0	0	0	0	22
07:45	0	9	0	0	0	0	0	3	0	0	0	0	12
Total	0	37	1	0	0	0	0	26	0	0	0	0	64
08:00	0	11	0	1	0	1	0	4	0	0	0	0	17
08:15	0	12	0	0	0	1	0	9	0	0	0	0	22
08:30	0	8	0	0	0	0	0	5	0	0	0	0	13
08:45	0	11	0	0	0	0	0	9	0	0	0	0	20
Total	0	42	0	1	0	2	0	27	0	0	0	0	72
Grand Total	0	79	1	1	0	2	0	53	0	0	0	0	136
Apprch %	0	98.8	1.2	33.3	0	66.7	0	100	0	0	0	0	
Total %	0	58.1	0.7	0.7	0	1.5	0	39	0	0	0	0	

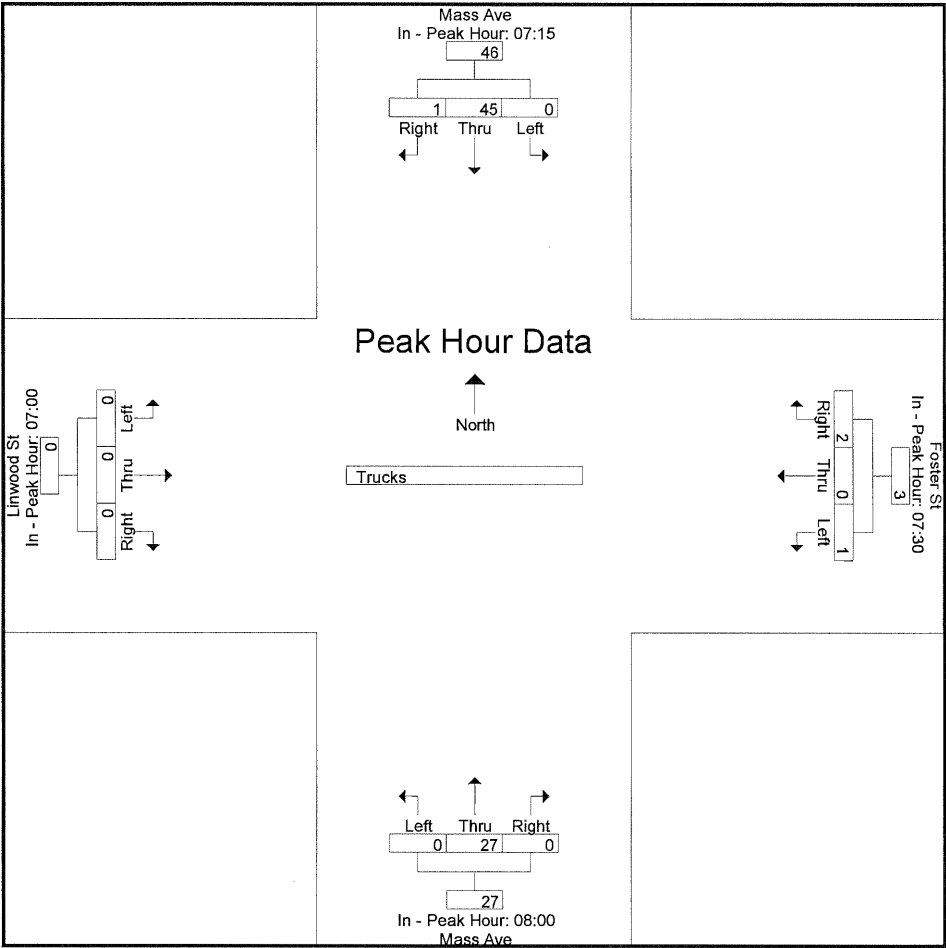
	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	13	0	13	0	0	0	0	0	9	0	9	0	0	0	0	22
07:45	0	9	0	9	0	0	0	0	0	3	0	3	0	0	0	0	12
08:00	0	11	0	11	1	0	1	2	0	4	0	4	0	0	0	0	17
08:15	0	12	0	12	0	0	1	1	0	9	0	9	0	0	0	0	22
Total Volume	0	45	0	45	1	0	2	3	0	25	0	25	0	0	0	0	73
% App. Total	0	100	0		33.3	0	66.7		0	100	0		0	0	0		
PHF	.000	.865	.000	.865	.250	.000	.500	.375	.000	.694	.000	.694	.000	.000	.000	.000	.830



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15				07:30				08:00				07:00			
+0 mins.	0	12	1	13	0	0	0	0	0	4	0	4	0	0	0	0
+15 mins.	0	13	0	13	0	0	0	0	0	9	0	9	0	0	0	0
+30 mins.	0	9	0	9	1	0	1	2	0	5	0	5	0	0	0	0
+45 mins.	0	11	0	11	0	0	1	1	0	9	0	9	0	0	0	0
Total Volume	0	45	1	46	1	0	2	3	0	27	0	27	0	0	0	0
% App. Total	0	97.8	2.2		33.3	0	66.7		0	100	0		0	0	0	
PHF	.000	.865	.250	.885	.250	.000	.500	.375	.000	.750	.000	.750	.000	.000	.000	.000



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000a1
 Site Code : 01300001
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

	Mass Ave From North		Foster St From East		Mass Ave From South		Linwood St From West		
Start Time	WB	EB	NB	SB	EB	WB	SB	NB	Int. Total
07:00	8	5	1	0	3	4	0	0	21
07:15	2	0	1	1	1	1	0	0	6
07:30	8	1	0	0	0	3	0	0	12
07:45	5	2	0	1	0	2	0	0	10
Total	23	8	2	2	4	10	0	0	49
08:00	5	1	0	0	1	3	0	0	10
08:15	7	0	0	0	0	2	1	3	13
08:30	7	2	0	0	3	1	0	0	13
08:45	3	1	0	0	0	1	0	0	5
Total	22	4	0	0	4	7	1	3	41
Grand Total	45	12	2	2	8	17	1	3	90
Approch %	78.9	21.1	50	50	32	68	25	75	
Total %	50	13.3	2.2	2.2	8.9	18.9	1.1	3.3	

	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00													
07:00	8	5	13	1	0	1	3	4	7	0	0	0	21
07:15	2	0	2	1	1	2	1	1	2	0	0	0	6
07:30	8	1	9	0	0	0	0	3	3	0	0	0	12
07:45	5	2	7	0	1	1	0	2	2	0	0	0	10
Total Volume	23	8	31	2	2	4	4	10	14	0	0	0	49
% App. Total	74.2	25.8		50	50		28.6	71.4		0	0		
PHF	.719	.400	.596	.500	.500	.500	.333	.625	.500	.000	.000	.000	.583

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00			07:00			07:00			07:30		
+0 mins.	8	5	13	1	0	1	3	4	7	0	0	0
+15 mins.	2	0	2	1	1	2	1	1	2	0	0	0
+30 mins.	8	1	9	0	0	0	0	3	3	0	0	0
+45 mins.	5	2	7	0	1	1	0	2	2	1	3	4
Total Volume	23	8	31	2	2	4	4	10	14	1	3	4
% App. Total	74.2	25.8		50	50		28.6	71.4		25	75	
PHF	.719	.400	.596	.500	.500	.500	.333	.625	.500	.250	.250	.250

N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000a1
 Site Code : 01300001
 Start Date : 10/21/2008
 Page No : 1

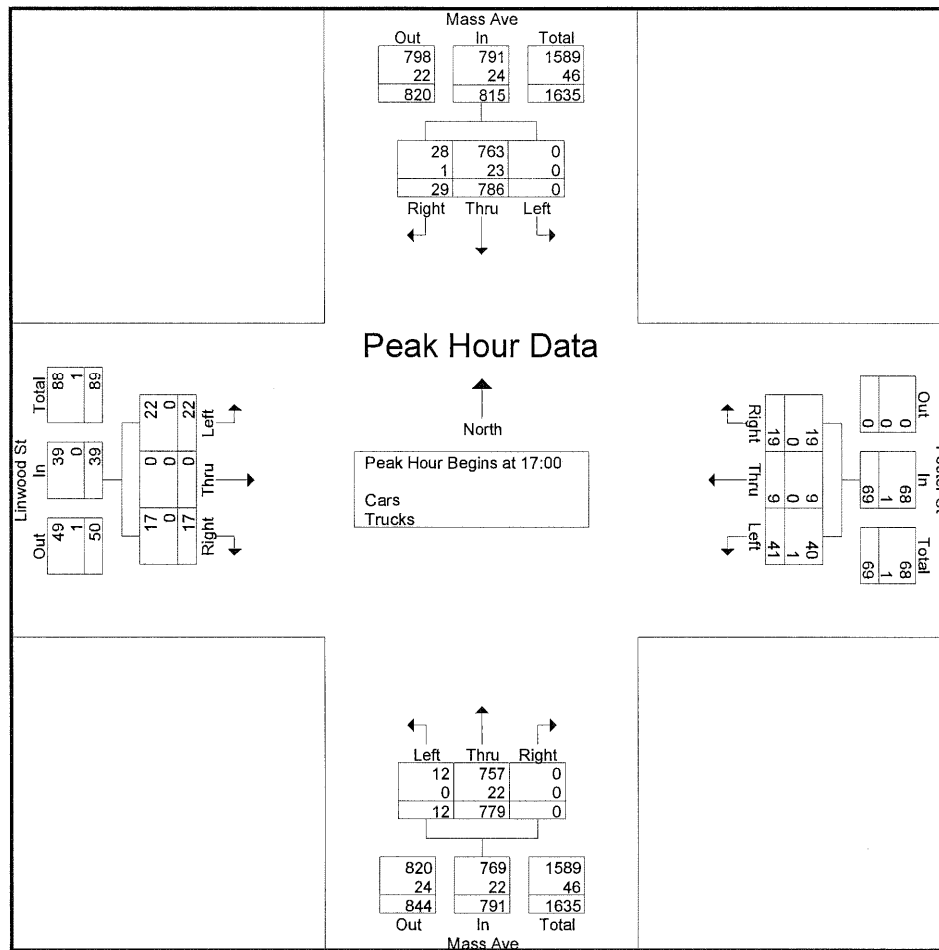
Groups Printed- Cars - Trucks

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	148	7	8	0	11	5	183	0	4	0	4	370
16:15	0	165	7	9	3	3	3	178	0	3	0	3	374
16:30	0	169	6	5	3	1	2	149	0	10	0	3	348
16:45	0	169	5	6	1	2	2	193	0	4	0	1	383
Total	0	651	25	28	7	17	12	703	0	21	0	11	1475
17:00	0	178	8	6	2	4	3	196	0	5	0	2	404
17:15	0	191	6	10	0	10	5	179	0	4	0	4	409
17:30	0	199	6	9	4	3	1	219	0	5	0	7	453
17:45	0	218	9	16	3	2	3	185	0	8	0	4	448
Total	0	786	29	41	9	19	12	779	0	22	0	17	1714
Grand Total	0	1437	54	69	16	36	24	1482	0	43	0	28	3189
Apprch %	0	96.4	3.6	57	13.2	29.8	1.6	98.4	0	60.6	0	39.4	
Total %	0	45.1	1.7	2.2	0.5	1.1	0.8	46.5	0	1.3	0	0.9	
Cars	0	1394	53	68	16	35	24	1432	0	43	0	28	3093
% Cars	0	97	98.1	98.6	100	97.2	100	96.6	0	100	0	100	97
Trucks	0	43	1	1	0	1	0	50	0	0	0	0	96
% Trucks	0	3	1.9	1.4	0	2.8	0	3.4	0	0	0	0	3

	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	178	8	186	6	2	4	12	3	196	0	199	5	0	2	7	404
17:15	0	191	6	197	10	0	10	20	5	179	0	184	4	0	4	8	409
17:30	0	199	6	205	9	4	3	16	1	219	0	220	5	0	7	12	453
17:45	0	218	9	227	16	3	2	21	3	185	0	188	8	0	4	12	448
Total Volume	0	786	29	815	41	9	19	69	12	779	0	791	22	0	17	39	1714
% App. Total	0	96.4	3.6		59.4	13	27.5		1.5	98.5	0		56.4	0	43.6		
PHF	.000	.901	.806	.898	.641	.563	.475	.821	.600	.889	.000	.899	.688	.000	.607	.813	.946
Cars	0	763	28	791	40	9	19	68	12	757	0	769	22	0	17	39	1667
% Cars	0	97.1	96.6	97.1	97.6	100	100	98.6	100	97.2	0	97.2	100	0	100	100	97.3
Trucks	0	23	1	24	1	0	0	1	0	22	0	22	0	0	0	0	47
% Trucks	0	2.9	3.4	2.9	2.4	0	0	1.4	0	2.8	0	2.8	0	0	0	0	2.7

Accurate Counts
978-664-2565

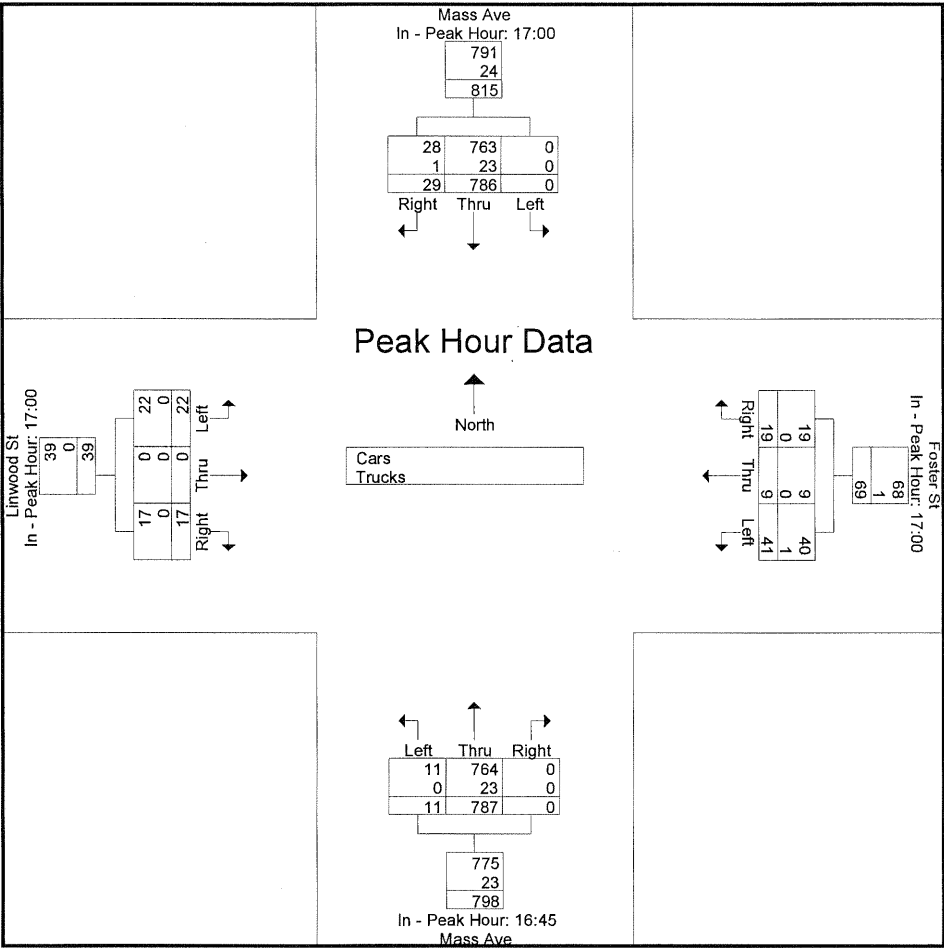
File Name : 013000a1
Site Code : 01300001
Start Date : 10/21/2008
Page No : 2



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				17:00				16:45				17:00			
+0 mins.	0	178	8	186	6	2	4	12	2	193	0	195	5	0	2	7
+15 mins.	0	191	6	197	10	0	10	20	3	196	0	199	4	0	4	8
+30 mins.	0	199	6	205	9	4	3	16	5	179	0	184	5	0	7	12
+45 mins.	0	218	9	227	16	3	2	21	1	219	0	220	8	0	4	12
Total Volume	0	786	29	815	41	9	19	69	11	787	0	798	22	0	17	39
% App. Total	0	96.4	3.6		59.4	13	27.5		1.4	98.6	0		56.4	0	43.6	
PHF	.000	.901	.806	.898	.641	.563	.475	.821	.550	.898	.000	.907	.688	.000	.607	.813
Cars	0	763	28	791	40	9	19	68	11	764	0	775	22	0	17	39
% Cars	0	97.1	96.6	97.1	97.6	100	100	98.6	100	97.1	0	97.1	100	0	100	100
Trucks	0	23	1	24	1	0	0	1	0	23	0	23	0	0	0	0
% Trucks	0	2.9	3.4	2.9	2.4	0	0	1.4	0	2.9	0	2.9	0	0	0	0



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

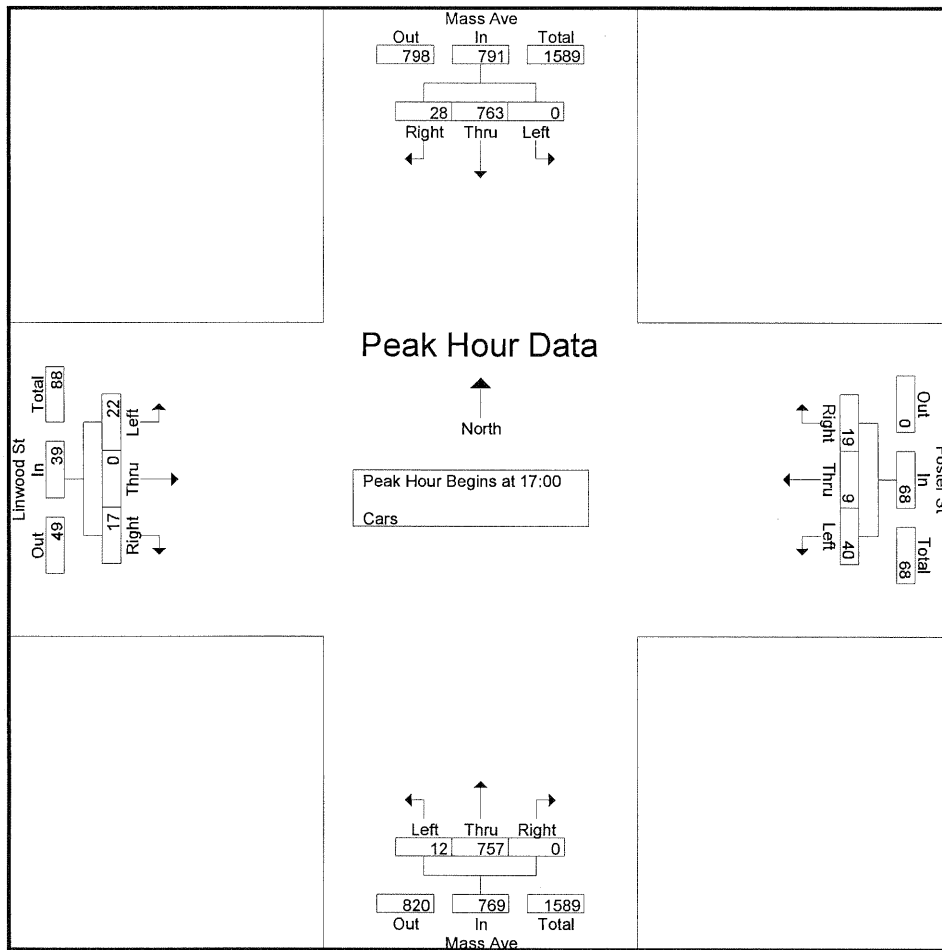
Accurate Counts
 978-664-2565

File Name : 013000a1
 Site Code : 01300001
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	144	7	8	0	10	5	174	0	4	0	4	356
16:15	0	159	7	9	3	3	3	172	0	3	0	3	362
16:30	0	164	6	5	3	1	2	144	0	10	0	3	338
16:45	0	164	5	6	1	2	2	185	0	4	0	1	370
Total	0	631	25	28	7	16	12	675	0	21	0	11	1426
17:00	0	173	8	5	2	4	3	190	0	5	0	2	392
17:15	0	185	6	10	0	10	5	176	0	4	0	4	400
17:30	0	192	6	9	4	3	1	213	0	5	0	7	440
17:45	0	213	8	16	3	2	3	178	0	8	0	4	435
Total	0	763	28	40	9	19	12	757	0	22	0	17	1667
Grand Total	0	1394	53	68	16	35	24	1432	0	43	0	28	3093
Apprch %	0	96.3	3.7	57.1	13.4	29.4	1.6	98.4	0	60.6	0	39.4	
Total %	0	45.1	1.7	2.2	0.5	1.1	0.8	46.3	0	1.4	0	0.9	

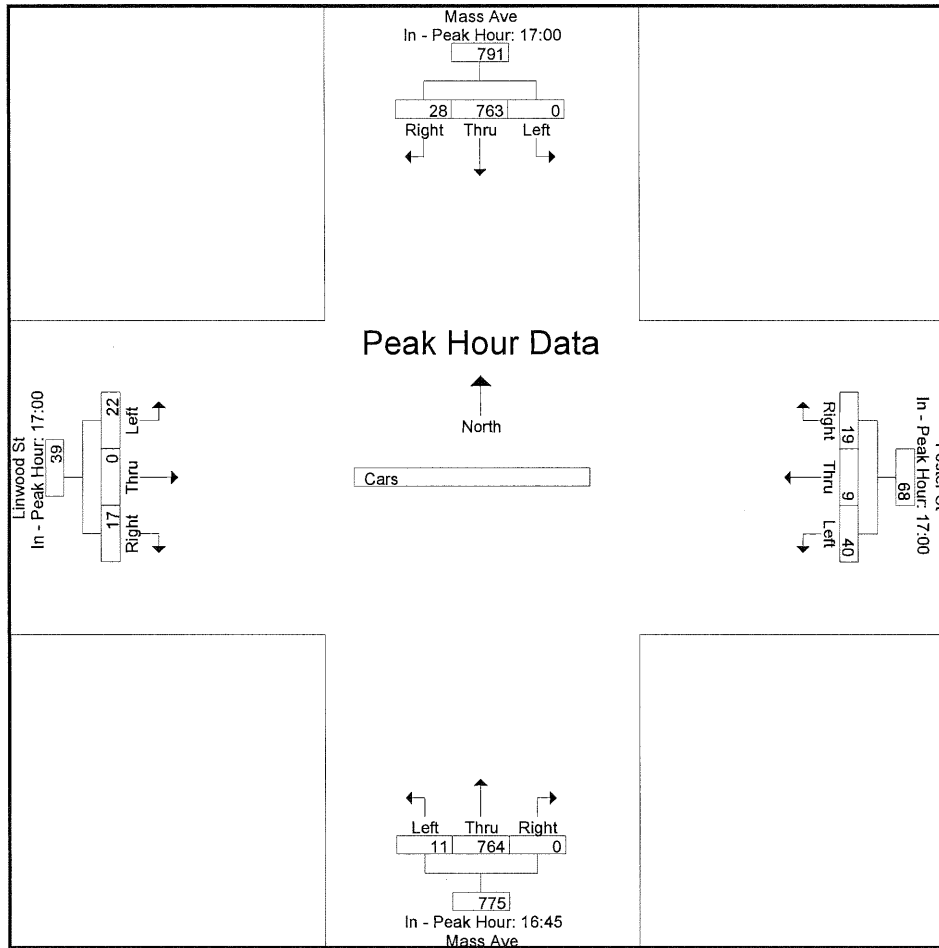
	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	173	8	181	5	2	4	11	3	190	0	193	5	0	2	7	392
17:15	0	185	6	191	10	0	10	20	5	176	0	181	4	0	4	8	400
17:30	0	192	6	198	9	4	3	16	1	213	0	214	5	0	7	12	440
17:45	0	213	8	221	16	3	2	21	3	178	0	181	8	0	4	12	435
Total Volume	0	763	28	791	40	9	19	68	12	757	0	769	22	0	17	39	1667
% App. Total	0	96.5	3.5		58.8	13.2	27.9		1.6	98.4	0		56.4	0	43.6		
PHF	.000	.896	.875	.895	.625	.563	.475	.810	.600	.888	.000	.898	.688	.000	.607	.813	.947



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				17:00				16:45				17:00			
+0 mins.	0	173	8	181	5	2	4	11	2	185	0	187	5	0	2	7
+15 mins.	0	185	6	191	10	0	10	20	3	190	0	193	4	0	4	8
+30 mins.	0	192	6	198	9	4	3	16	5	176	0	181	5	0	7	12
+45 mins.	0	213	8	221	16	3	2	21	1	213	0	214	8	0	4	12
Total Volume	0	763	28	791	40	9	19	68	11	764	0	775	22	0	17	39
% App. Total	0	96.5	3.5		58.8	13.2	27.9		1.4	98.6	0		56.4	0	43.6	
PHF	.000	.896	.875	.895	.625	.563	.475	.810	.550	.897	.000	.905	.688	.000	.607	.813



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

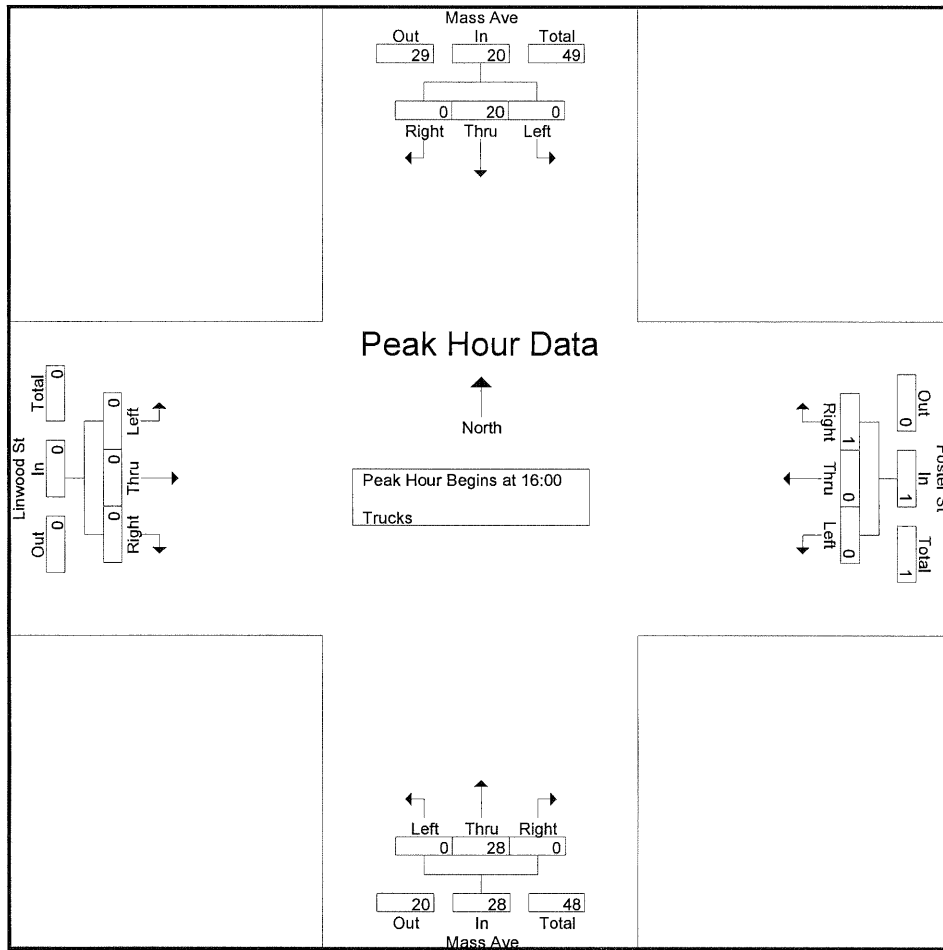
Accurate Counts
 978-664-2565

File Name : 013000a1
 Site Code : 01300001
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Trucks

	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	0	4	0	0	0	1	0	9	0	0	0	0	14
16:15	0	6	0	0	0	0	0	6	0	0	0	0	12
16:30	0	5	0	0	0	0	0	5	0	0	0	0	10
16:45	0	5	0	0	0	0	0	8	0	0	0	0	13
Total	0	20	0	0	0	1	0	28	0	0	0	0	49
17:00	0	5	0	1	0	0	0	6	0	0	0	0	12
17:15	0	6	0	0	0	0	0	3	0	0	0	0	9
17:30	0	7	0	0	0	0	0	6	0	0	0	0	13
17:45	0	5	1	0	0	0	0	7	0	0	0	0	13
Total	0	23	1	1	0	0	0	22	0	0	0	0	47
Grand Total	0	43	1	1	0	1	0	50	0	0	0	0	96
Apprch %	0	97.7	2.3	50	0	50	0	100	0	0	0	0	
Total %	0	44.8	1	1	0	1	0	52.1	0	0	0	0	

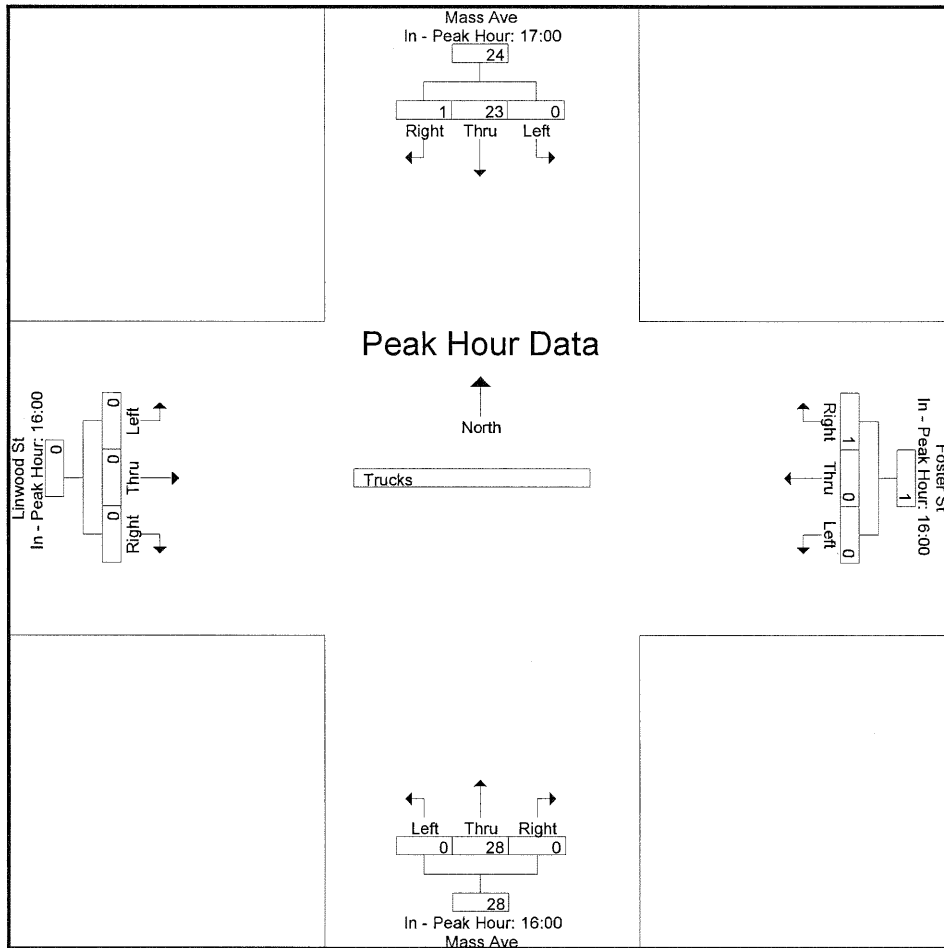
	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	4	0	4	0	0	1	1	0	9	0	9	0	0	0	0	14
16:15	0	6	0	6	0	0	0	0	0	6	0	6	0	0	0	0	12
16:30	0	5	0	5	0	0	0	0	0	5	0	5	0	0	0	0	10
16:45	0	5	0	5	0	0	0	0	0	8	0	8	0	0	0	0	13
Total Volume	0	20	0	20	0	0	1	1	0	28	0	28	0	0	0	0	49
% App. Total	0	100	0		0	0	100		0	100	0		0	0	0		
PIHF	.000	.833	.000	.833	.000	.000	.250	.250	.000	.778	.000	.778	.000	.000	.000	.000	.875



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				16:00				16:00				16:00			
+0 mins.	0	5	0	5	0	0	1	1	0	9	0	9	0	0	0	0
+15 mins.	0	6	0	6	0	0	0	0	0	6	0	6	0	0	0	0
+30 mins.	0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0
+45 mins.	0	5	1	6	0	0	0	0	0	8	0	8	0	0	0	0
Total Volume	0	23	1	24	0	0	1	1	0	28	0	28	0	0	0	0
% App. Total	0	95.8	4.2		0	0	100		0	100	0		0	0	0	
PHF	.000	.821	.250	.857	.000	.000	.250	.250	.000	.778	.000	.778	.000	.000	.000	.000



N/S Street : Massachusetts Avenue
E/W Street: Foster St / Linwood St
City/State : Arlington, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 013000a1
Site Code : 01300001
Start Date : 10/21/2008
Page No : 1

Groups Printed- Peds

	Mass Ave From North		Foster St From East		Mass Ave From South		Linwood St From West		
Start Time	WB	EB	NB	SB	EB	WB	SB	NB	Int. Total
16:00	2	5	4	3	1	1	0	1	17
16:15	4	3	0	0	0	3	0	0	10
16:30	3	1	0	1	0	3	0	0	8
16:45	1	2	0	0	1	3	0	0	7
Total	10	11	4	4	2	10	0	1	42
17:00	3	5	8	1	0	0	0	0	17
17:15	5	1	0	2	2	2	0	0	12
17:30	5	3	0	0	0	8	0	2	18
17:45	1	2	0	0	1	4	0	0	8
Total	14	11	8	3	3	14	0	2	55
Grand Total	24	22	12	7	5	24	0	3	97
Apprch %	52.2	47.8	63.2	36.8	17.2	82.8	0	100	
Total %	24.7	22.7	12.4	7.2	5.2	24.7	0	3.1	

	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 17:00													
17:00	3	5	8	8	1	9	0	0	0	0	0	0	17
17:15	5	1	6	0	2	2	2	2	4	0	0	0	12
17:30	5	3	8	0	0	0	0	8	8	0	2	2	18
17:45	1	2	3	0	0	0	1	4	5	0	0	0	8
Total Volume	14	11	25	8	3	11	3	14	17	0	2	2	55
% App. Total	56	44		72.7	27.3		17.6	82.4		0	100		
PHF	.700	.550	.781	.250	.375	.306	.375	.438	.531	.000	.250	.250	.764

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:45			16:30			17:00			16:45		
+0 mins.	1	2	3	0	1	1	0	0	0	0	0	0
+15 mins.	3	5	8	0	0	0	2	2	4	0	0	0
+30 mins.	5	1	6	8	1	9	0	8	8	0	0	0
+45 mins.	5	3	8	0	2	2	1	4	5	0	2	2
Total Volume	14	11	25	8	4	12	3	14	17	0	2	2
% App. Total	56	44		66.7	33.3		17.6	82.4		0	100	
PHF	.700	.550	.781	.250	.500	.333	.375	.438	.531	.000	.250	.250

N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000a1
 Site Code : 01300001
 Start Date : 10/21/2008
 Page No : 1

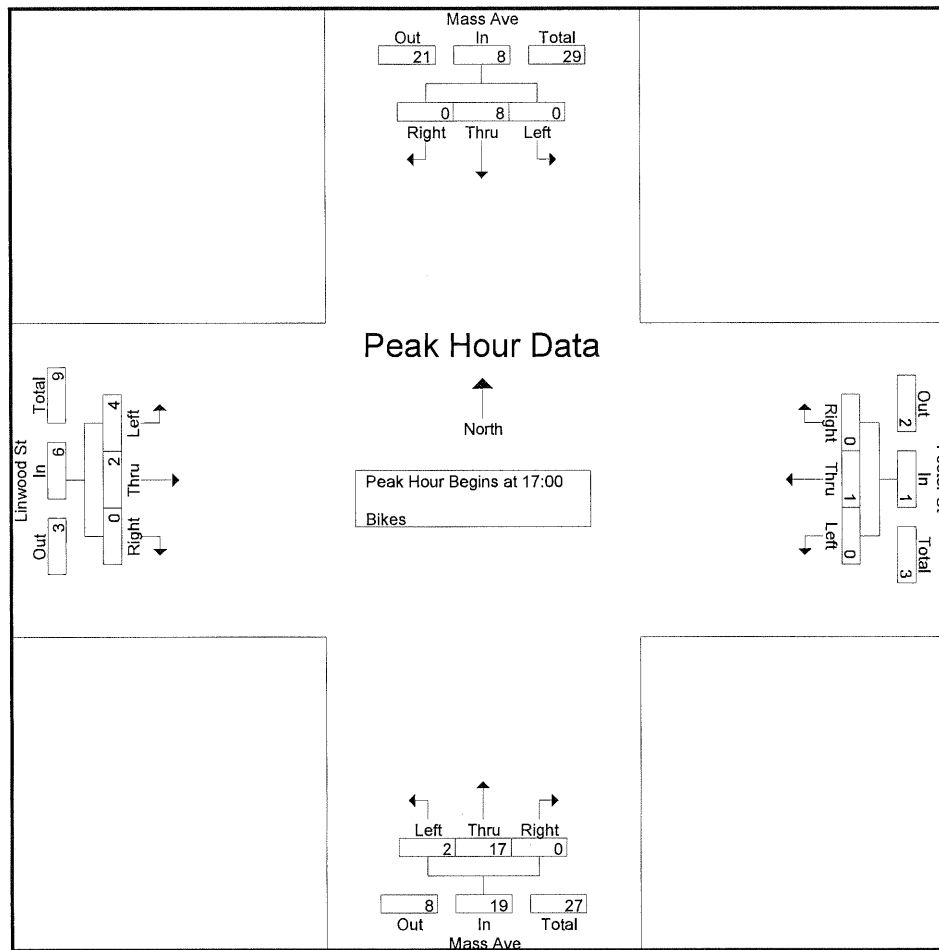
Groups Printed- Bikes

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	1	0	0	0	0	0	1	0	1	0	0	3
16:15	0	0	0	0	0	0	0	1	0	0	0	0	1
16:30	0	0	0	0	0	0	0	2	0	1	0	0	3
16:45	0	0	0	0	0	0	0	4	0	0	0	0	4
Total	0	1	0	0	0	0	0	8	0	2	0	0	11
17:00	0	0	0	0	0	0	0	4	0	1	1	0	6
17:15	0	2	0	0	0	0	0	2	0	0	0	0	4
17:30	0	3	0	0	0	0	1	5	0	2	1	0	12
17:45	0	3	0	0	1	0	1	6	0	1	0	0	12
Total	0	8	0	0	1	0	2	17	0	4	2	0	34
Grand Total	0	9	0	0	1	0	2	25	0	6	2	0	45
Apprch %	0	100	0	0	100	0	7.4	92.6	0	75	25	0	
Total %	0	20	0	0	2.2	0	4.4	55.6	0	13.3	4.4	0	

	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	0	0	0	0	4	0	4	1	1	0	2	6
17:15	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
17:30	0	3	0	3	0	0	0	0	1	5	0	6	2	1	0	3	12
17:45	0	3	0	3	0	1	0	1	1	6	0	7	1	0	0	1	12
Total Volume	0	8	0	8	0	1	0	1	2	17	0	19	4	2	0	6	34
% App. Total	0	100	0		0	100	0		10.5	89.5	0		66.7	33.3	0		
PHF	.000	.667	.000	.667	.000	.250	.000	.250	.500	.708	.000	.679	.500	.500	.000	.500	.708

Accurate Counts
978-664-2565

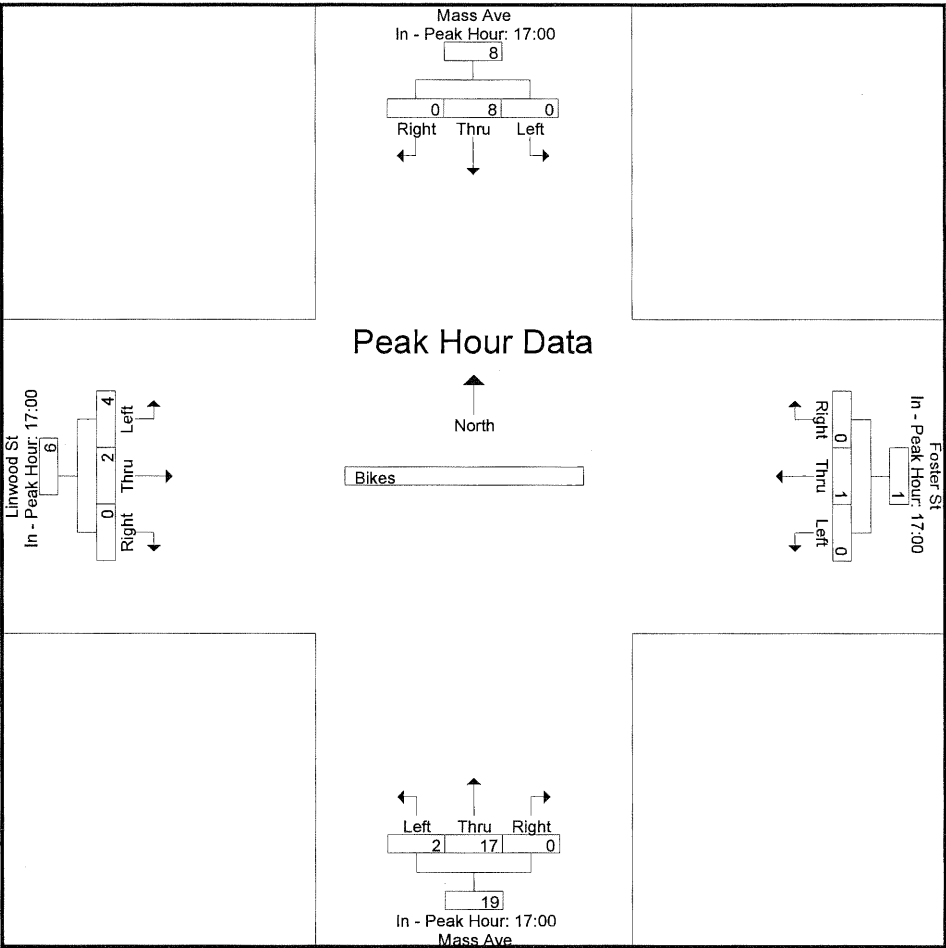
File Name : 013000a1
Site Code : 01300001
Start Date : 10/21/2008
Page No : 2



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				17:00				17:00				17:00			
+0 mins.	0	0	0	0	0	0	0	0	0	4	0	4	1	1	0	2
+15 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	3	0	3	0	0	0	0	1	5	0	6	2	1	0	3
+45 mins.	0	3	0	3	0	1	0	1	1	6	0	7	1	0	0	1
Total Volume	0	8	0	8	0	1	0	1	2	17	0	19	4	2	0	6
% App. Total	0	100	0		0	100	0		10.5	89.5	0		66.7	33.3	0	
PHF	.000	.667	.000	.667	.000	.250	.000	.250	.500	.708	.000	.679	.500	.500	.000	.500



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

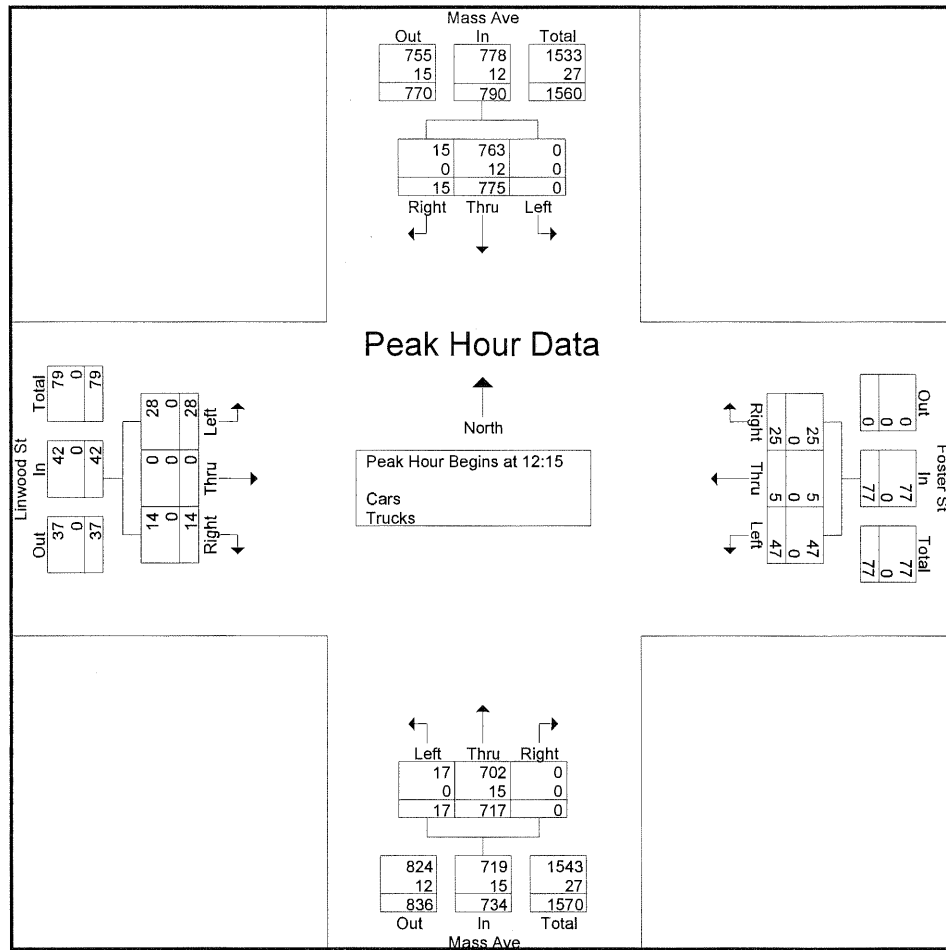
Accurate Counts
 978-664-2565

File Name : 01300001
 Site Code : 01300001
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	0	197	7	9	1	7	4	177	0	6	0	3	411
11:45	0	171	7	8	0	8	2	203	0	6	0	2	407
Total	0	368	14	17	1	15	6	380	0	12	0	5	818
12:00	0	188	9	4	1	6	6	173	0	7	0	4	398
12:15	0	194	6	18	1	11	9	176	0	9	0	2	426
12:30	0	178	5	5	1	7	2	159	0	6	0	4	367
12:45	0	185	1	19	2	4	4	187	0	6	0	2	410
Total	0	745	21	46	5	28	21	695	0	28	0	12	1601
13:00	0	218	3	5	1	3	2	195	0	7	0	6	440
13:15	0	156	8	8	1	5	3	177	0	2	0	5	365
Grand Total	0	1487	46	76	8	51	32	1447	0	49	0	28	3224
Apprch %	0	97	3	56.3	5.9	37.8	2.2	97.8	0	63.6	0	36.4	
Total %	0	46.1	1.4	2.4	0.2	1.6	1	44.9	0	1.5	0	0.9	
Cars	0	1460	46	76	8	51	32	1418	0	49	0	28	3168
% Cars	0	98.2	100	100	100	100	100	98	0	100	0	100	98.3
Trucks	0	27	0	0	0	0	0	29	0	0	0	0	56
% Trucks	0	1.8	0	0	0	0	0	2	0	0	0	0	1.7

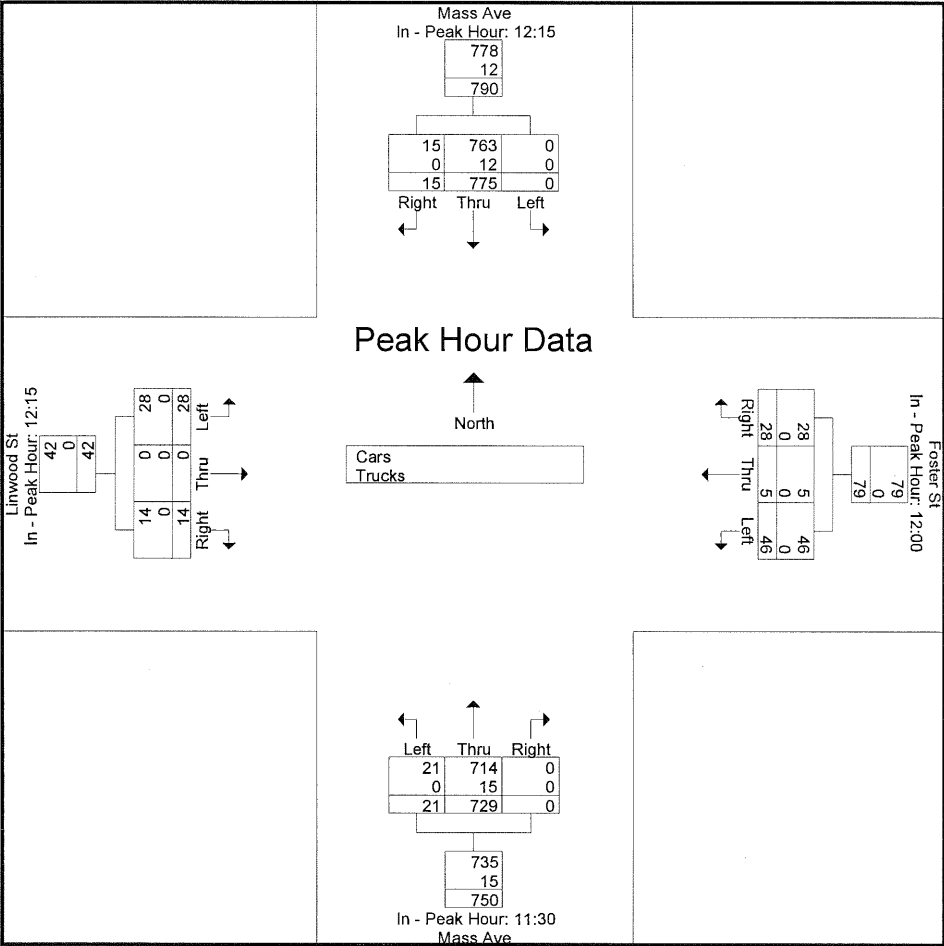
	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15																	
12:15	0	194	6	200	18	1	11	30	9	176	0	185	9	0	2	11	426
12:30	0	178	5	183	5	1	7	13	2	159	0	161	6	0	4	10	367
12:45	0	185	1	186	19	2	4	25	4	187	0	191	6	0	2	8	410
13:00	0	218	3	221	5	1	3	9	2	195	0	197	7	0	6	13	440
Total Volume	0	775	15	790	47	5	25	77	17	717	0	734	28	0	14	42	1643
% App. Total	0	98.1	1.9		61	6.5	32.5		2.3	97.7	0		66.7	0	33.3		
PHF	.000	.889	.625	.894	.618	.625	.568	.642	.472	.919	.000	.931	.778	.000	.583	.808	.934
Cars	0	763	15	778	47	5	25	77	17	702	0	719	28	0	14	42	1616
% Cars	0	98.5	100	98.5	100	100	100	100	100	97.9	0	98.0	100	0	100	100	98.4
Trucks	0	12	0	12	0	0	0	0	0	15	0	15	0	0	0	0	27
% Trucks	0	1.5	0	1.5	0	0	0	0	0	2.1	0	2.0	0	0	0	0	1.6



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:15				12:00				11:30				12:15			
+0 mins.	0	194	6	200	4	1	6	11	4	177	0	181	9	0	2	11
+15 mins.	0	178	5	183	18	1	11	30	2	203	0	205	6	0	4	10
+30 mins.	0	185	1	186	5	1	7	13	6	173	0	179	6	0	2	8
+45 mins.	0	218	3	221	19	2	4	25	9	176	0	185	7	0	6	13
Total Volume	0	775	15	790	46	5	28	79	21	729	0	750	28	0	14	42
% App. Total	0	98.1	1.9		58.2	6.3	35.4		2.8	97.2	0		66.7	0	33.3	
PHF	.000	.889	.625	.894	.605	.625	.636	.658	.583	.898	.000	.915	.778	.000	.583	.808
Cars	0	763	15	778	46	5	28	79	21	714	0	735	28	0	14	42
% Cars	0	98.5	100	98.5	100	100	100	100	100	97.9	0	98	100	0	100	100
Trucks	0	12	0	12	0	0	0	0	0	15	0	15	0	0	0	0
% Trucks	0	1.5	0	1.5	0	0	0	0	0	2.1	0	2	0	0	0	0



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300001
 Site Code : 01300001
 Start Date : 10/18/2008
 Page No : 1

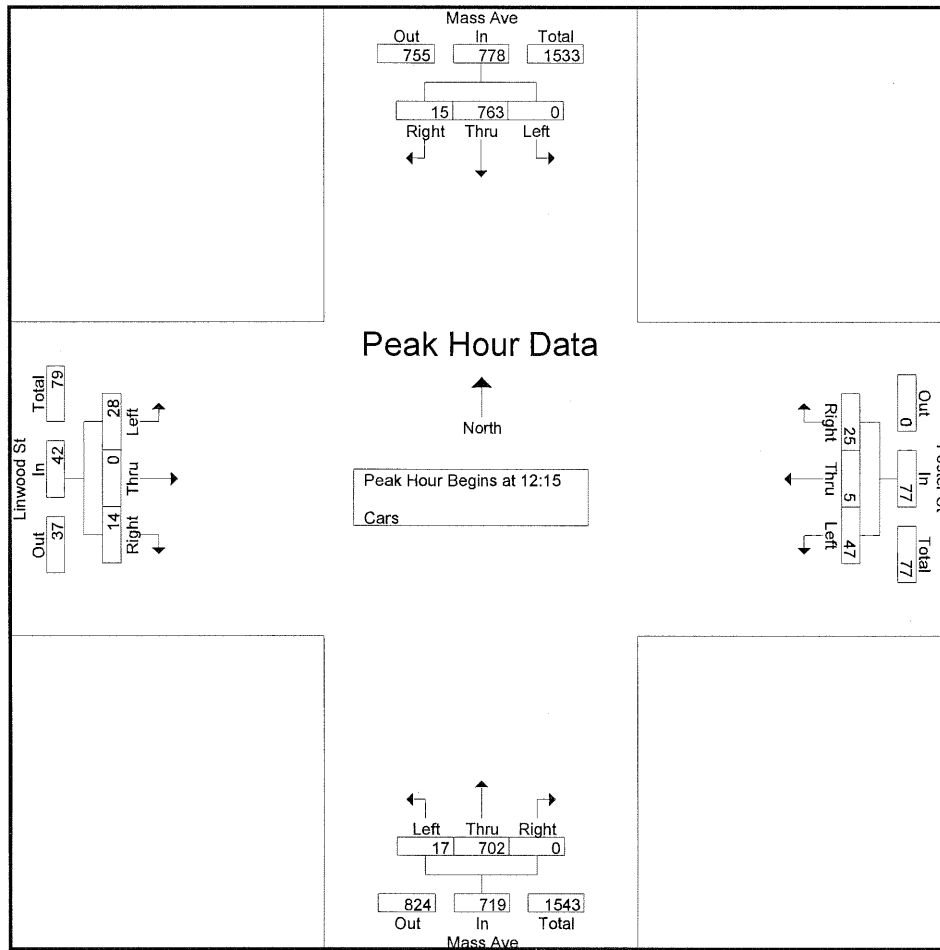
Groups Printed- Cars

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	0	195	7	9	1	7	4	174	0	6	0	3	406
11:45	0	168	7	8	0	8	2	202	0	6	0	2	403
Total	0	363	14	17	1	15	6	376	0	12	0	5	809
12:00	0	181	9	4	1	6	6	168	0	7	0	4	386
12:15	0	192	6	18	1	11	9	170	0	9	0	2	418
12:30	0	174	5	5	1	7	2	155	0	6	0	4	359
12:45	0	183	1	19	2	4	4	183	0	6	0	2	404
Total	0	730	21	46	5	28	21	676	0	28	0	12	1567
13:00	0	214	3	5	1	3	2	194	0	7	0	6	435
13:15	0	153	8	8	1	5	3	172	0	2	0	5	357
Grand Total	0	1460	46	76	8	51	32	1418	0	49	0	28	3168
Apprch %	0	96.9	3.1	56.3	5.9	37.8	2.2	97.8	0	63.6	0	36.4	
Total %	0	46.1	1.5	2.4	0.3	1.6	1	44.8	0	1.5	0	0.9	

	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15																	
12:15	0	192	6	198	18	1	11	30	9	170	0	179	9	0	2	11	418
12:30	0	174	5	179	5	1	7	13	2	155	0	157	6	0	4	10	359
12:45	0	183	1	184	19	2	4	25	4	183	0	187	6	0	2	8	404
13:00	0	214	3	217	5	1	3	9	2	194	0	196	7	0	6	13	435
Total Volume	0	763	15	778	47	5	25	77	17	702	0	719	28	0	14	42	1616
% App. Total	0	98.1	1.9		61	6.5	32.5		2.4	97.6	0		66.7	0	33.3		
PHF	.000	.891	.625	.896	.618	.625	.568	.642	.472	.905	.000	.917	.778	.000	.583	.808	.929

Accurate Counts
978-664-2565

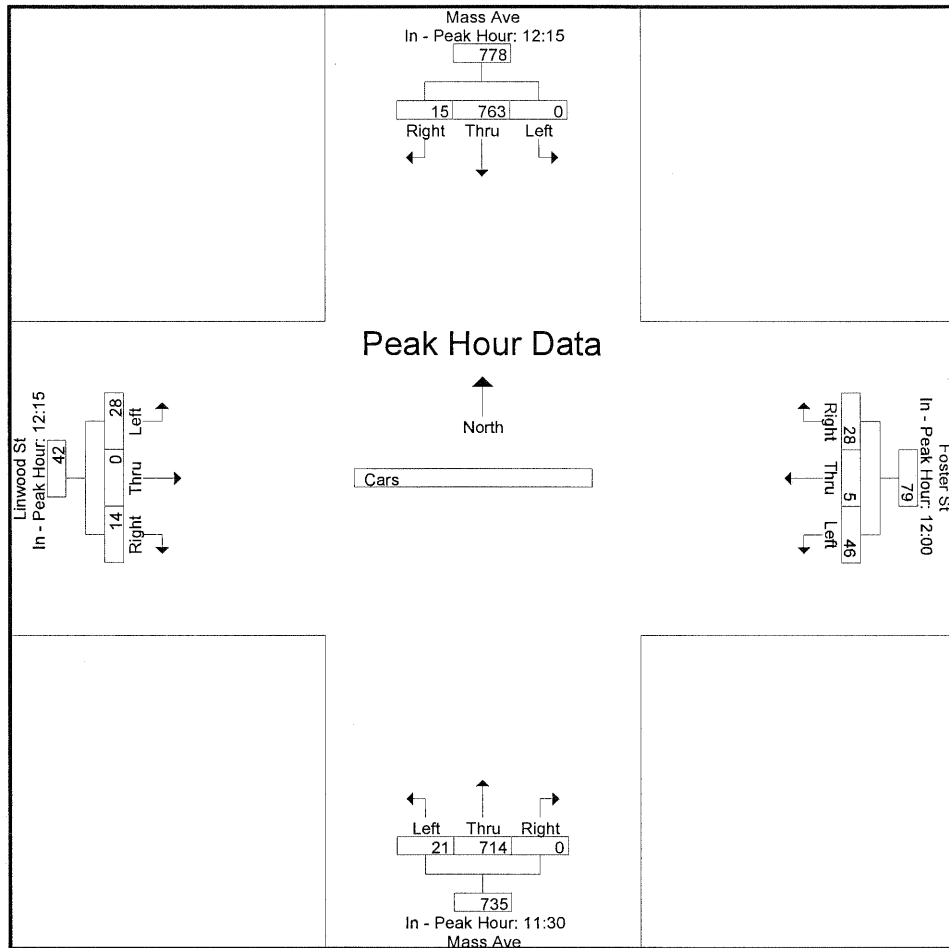
File Name : 01300001
Site Code : 01300001
Start Date : 10/18/2008
Page No : 2



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:15				12:00				11:30				12:15			
+0 mins.	0	192	6	198	4	1	6	11	4	174	0	178	9	0	2	11
+15 mins.	0	174	5	179	18	1	11	30	2	202	0	204	6	0	4	10
+30 mins.	0	183	1	184	5	1	7	13	6	168	0	174	6	0	2	8
+45 mins.	0	214	3	217	19	2	4	25	9	170	0	179	7	0	6	13
Total Volume	0	763	15	778	46	5	28	79	21	714	0	735	28	0	14	42
% App. Total	0	98.1	1.9		58.2	6.3	35.4		2.9	97.1	0		66.7	0	33.3	
PHF	.000	.891	.625	.896	.605	.625	.636	.658	.583	.884	.000	.901	.778	.000	.583	.808



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

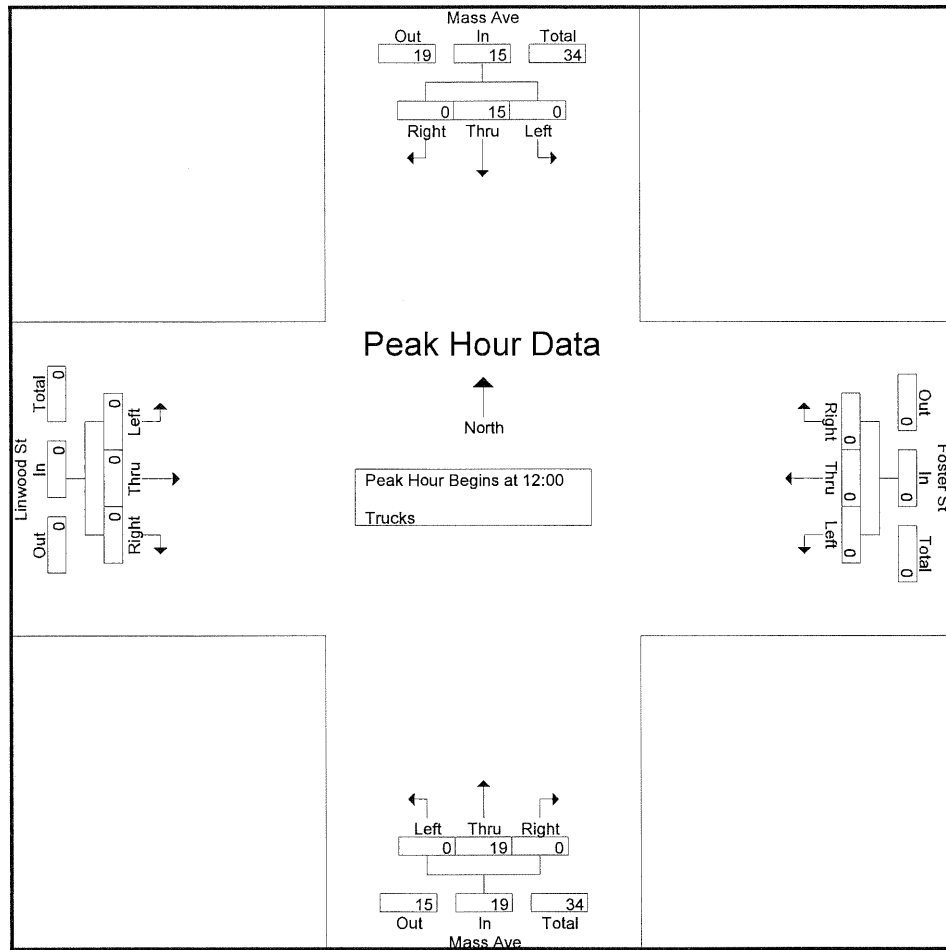
Accurate Counts
 978-664-2565

File Name : 01300001
 Site Code : 01300001
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Trucks

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	0	2	0	0	0	0	0	3	0	0	0	0	5
11:45	0	3	0	0	0	0	0	1	0	0	0	0	4
Total	0	5	0	0	0	0	0	4	0	0	0	0	9
12:00	0	7	0	0	0	0	0	5	0	0	0	0	12
12:15	0	2	0	0	0	0	0	6	0	0	0	0	8
12:30	0	4	0	0	0	0	0	4	0	0	0	0	8
12:45	0	2	0	0	0	0	0	4	0	0	0	0	6
Total	0	15	0	0	0	0	0	19	0	0	0	0	34
13:00	0	4	0	0	0	0	0	1	0	0	0	0	5
13:15	0	3	0	0	0	0	0	5	0	0	0	0	8
Grand Total	0	27	0	0	0	0	0	29	0	0	0	0	56
Apprch %	0	100	0	0	0	0	0	100	0	0	0	0	
Total %	0	48.2	0	0	0	0	0	51.8	0	0	0	0	

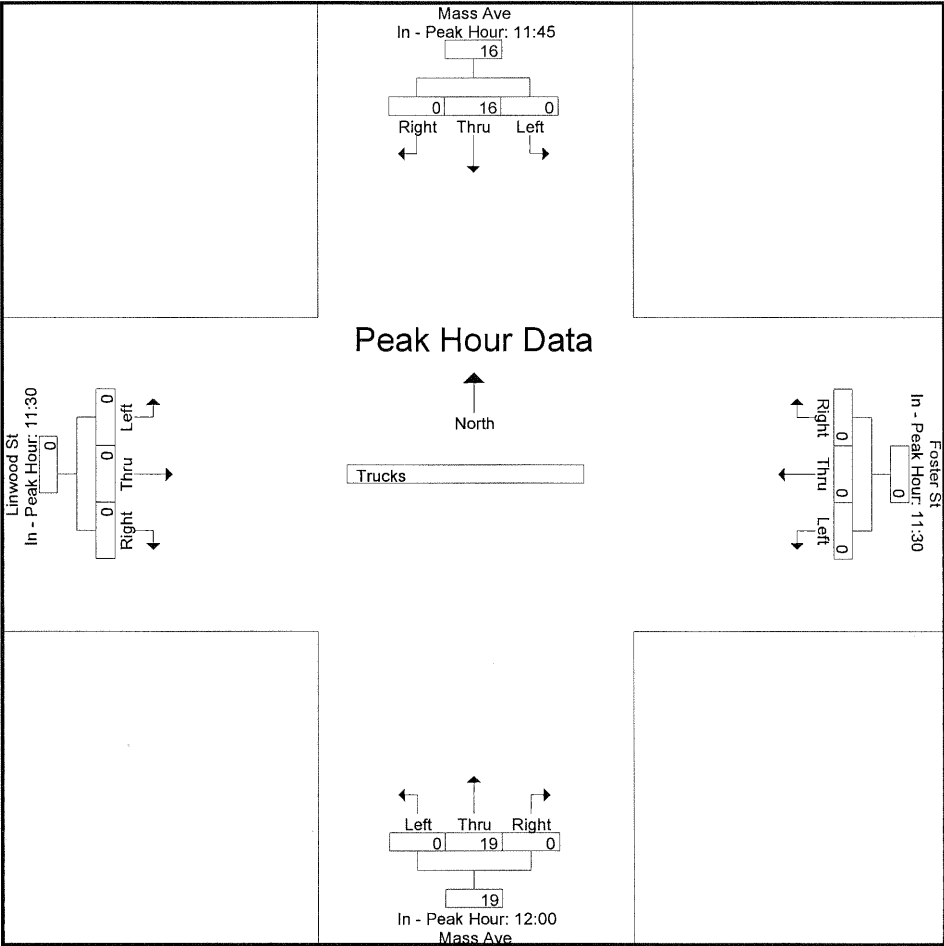
	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00																	
12:00	0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0	12
12:15	0	2	0	2	0	0	0	0	0	6	0	6	0	0	0	0	8
12:30	0	4	0	4	0	0	0	0	0	4	0	4	0	0	0	0	8
12:45	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6
Total Volume	0	15	0	15	0	0	0	0	0	19	0	19	0	0	0	0	34
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.536	.000	.536	.000	.000	.000	.000	.000	.792	.000	.792	.000	.000	.000	.000	.708



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45				11:30				12:00				11:30			
+0 mins.	0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0
+15 mins.	0	7	0	7	0	0	0	0	0	6	0	6	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0
+45 mins.	0	4	0	4	0	0	0	0	0	4	0	4	0	0	0	0
Total Volume	0	16	0	16	0	0	0	0	0	19	0	19	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.571	.000	.571	.000	.000	.000	.000	.000	.792	.000	.792	.000	.000	.000	.000



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300001
 Site Code : 01300001
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Peds

Start Time	Mass Ave From North		Foster St From East		Mass Ave From South		Linwood St From West		Int. Total
	WB	EB	NB	SB	EB	WB	SB	NB	
11:30	2	0	9	4	2	4	7	1	29
11:45	7	3	4	2	3	1	6	3	29
Total	9	3	13	6	5	5	13	4	58
12:00	0	6	7	3	3	6	5	1	31
12:15	3	4	2	4	8	1	2	1	25
12:30	2	5	1	4	1	6	4	8	31
12:45	9	4	7	4	4	3	5	4	40
Total	14	19	17	15	16	16	16	14	127
13:00	4	1	3	8	0	9	4	4	33
13:15	19	6	8	6	3	7	4	5	58
Grand Total	46	29	41	35	24	37	37	27	276
Apprch %	61.3	38.7	53.9	46.1	39.3	60.7	57.8	42.2	
Total %	16.7	10.5	14.9	12.7	8.7	13.4	13.4	9.8	

	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 12:30													
12:30	2	5	7	1	4	5	1	6	7	4	8	12	31
12:45	9	4	13	7	4	11	4	3	7	5	4	9	40
13:00	4	1	5	3	8	11	0	9	9	4	4	8	33
13:15	19	6	25	8	6	14	3	7	10	4	5	9	58
Total Volume	34	16	50	19	22	41	8	25	33	17	21	38	162
% App. Total	68	32		46.3	53.7		24.2	75.8		44.7	55.3		
PHF	.447	.667	.500	.594	.688	.732	.500	.694	.825	.850	.656	.792	.698

Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30			12:30			12:30			12:30		
+0 mins.	2	5	7	1	4	5	1	6	7	4	8	12
+15 mins.	9	4	13	7	4	11	4	3	7	5	4	9
+30 mins.	4	1	5	3	8	11	0	9	9	4	4	8
+45 mins.	19	6	25	8	6	14	3	7	10	4	5	9
Total Volume	34	16	50	19	22	41	8	25	33	17	21	38
% App. Total	68	32		46.3	53.7		24.2	75.8		44.7	55.3	
PHF	.447	.667	.500	.594	.688	.732	.500	.694	.825	.850	.656	.792

N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Clear

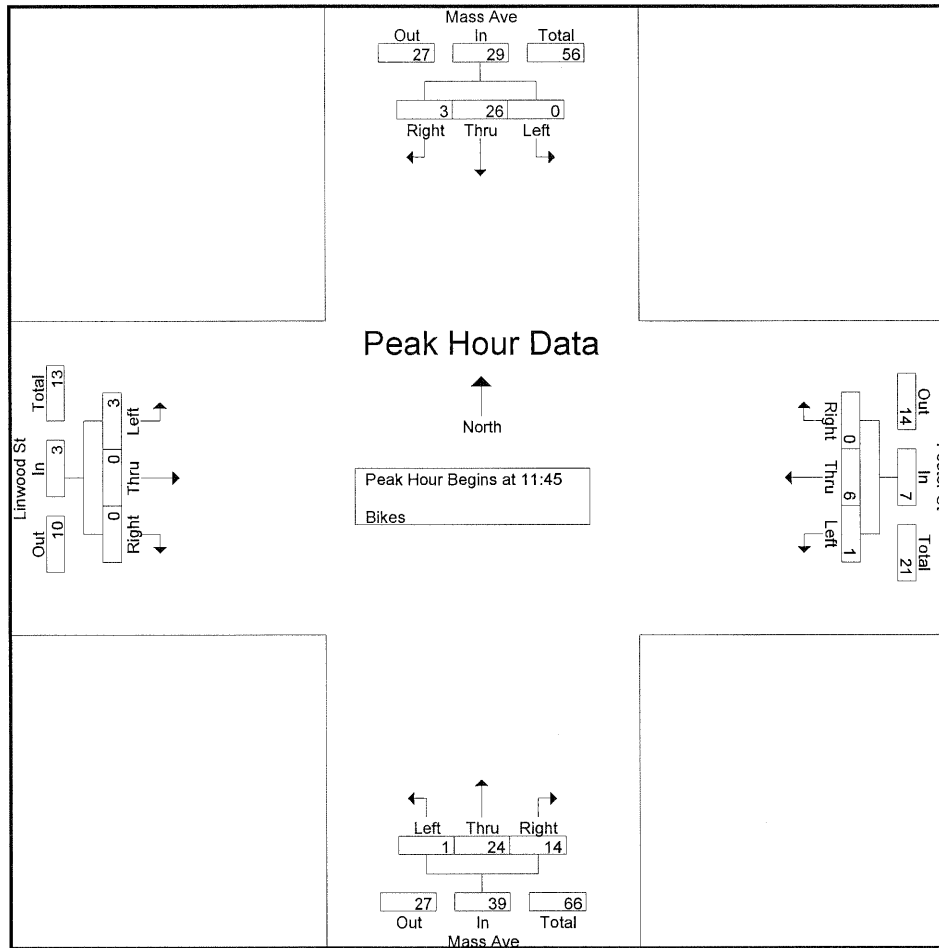
Accurate Counts
 978-664-2565

File Name : 01300001
 Site Code : 01300001
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Bikes

	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
11:30	0	11	0	0	0	0	0	2	4	0	0	0	17
11:45	0	6	1	0	1	0	1	8	1	0	0	0	18
Total	0	17	1	0	1	0	1	10	5	0	0	0	35
12:00	0	7	2	0	3	0	0	8	6	2	0	0	28
12:15	0	5	0	1	1	0	0	2	1	1	0	0	11
12:30	0	8	0	0	1	0	0	6	6	0	0	0	21
12:45	0	7	0	0	0	0	1	3	3	0	0	1	15
Total	0	27	2	1	5	0	1	19	16	3	0	1	75
13:00	0	16	0	1	1	0	0	1	2	0	0	0	21
13:15	0	4	0	0	1	0	0	4	1	0	0	0	10
Grand Total	0	64	3	2	8	0	2	34	24	3	0	1	141
Apprch %	0	95.5	4.5	20	80	0	3.3	56.7	40	75	0	25	
Total %	0	45.4	2.1	1.4	5.7	0	1.4	24.1	17	2.1	0	0.7	

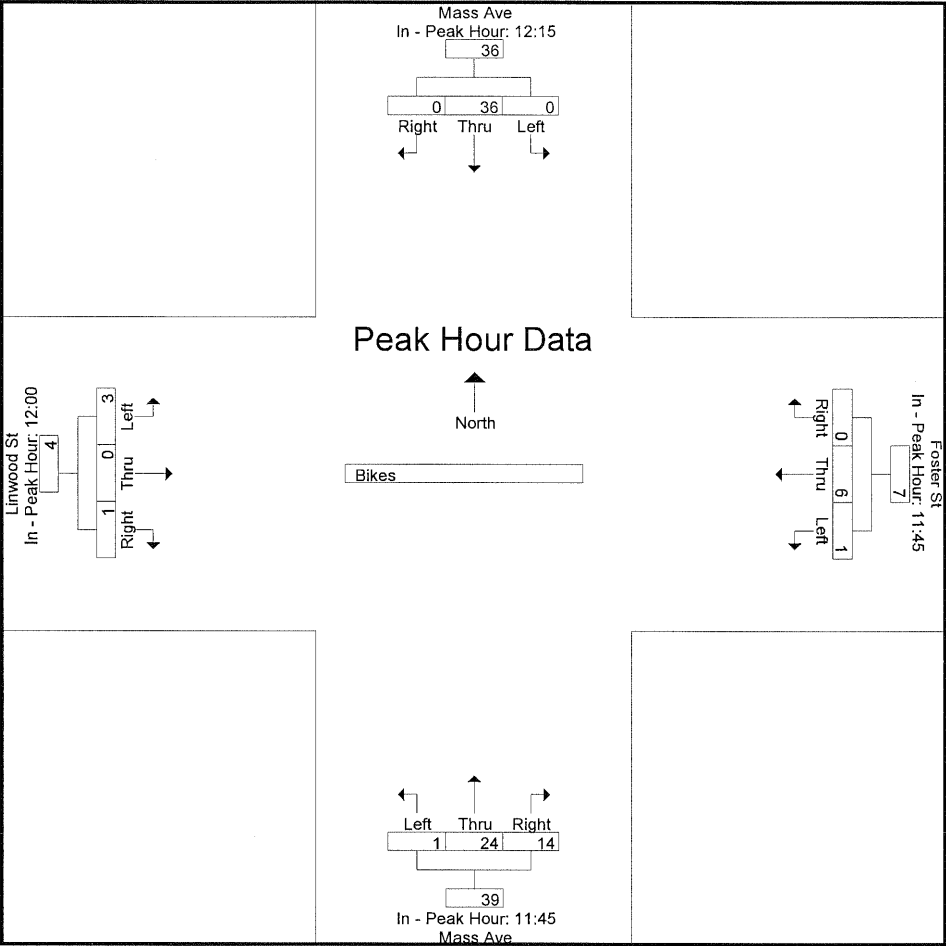
	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45																	
11:45	0	6	1	7	0	1	0	1	1	8	1	10	0	0	0	0	18
12:00	0	7	2	9	0	3	0	3	0	8	6	14	2	0	0	2	28
12:15	0	5	0	5	1	1	0	2	0	2	1	3	1	0	0	1	11
12:30	0	8	0	8	0	1	0	1	0	6	6	12	0	0	0	0	21
Total Volume	0	26	3	29	1	6	0	7	1	24	14	39	3	0	0	3	78
% App. Total	0	89.7	10.3		14.3	85.7	0		2.6	61.5	35.9		100	0	0		
PHF	.000	.813	.375	.806	.250	.500	.000	.583	.250	.750	.583	.696	.375	.000	.000	.375	.696



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:15				11:45				11:45				12:00			
+0 mins.	0	5	0	5	0	1	0	1	1	8	1	10	2	0	0	2
+15 mins.	0	8	0	8	0	3	0	3	0	8	6	14	1	0	0	1
+30 mins.	0	7	0	7	1	1	0	2	0	2	1	3	0	0	0	0
+45 mins.	0	16	0	16	0	1	0	1	0	6	6	12	0	0	1	1
Total Volume	0	36	0	36	1	6	0	7	1	24	14	39	3	0	1	4
% App. Total	0	100	0		14.3	85.7	0		2.6	61.5	35.9		75	0	25	
PHF	.000	.563	.000	.563	.250	.500	.000	.583	.250	.750	.583	.696	.375	.000	.250	.500



N/S Street : Massachusetts Avenue
 E/W Street: Bates Rd / Marion Rd
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

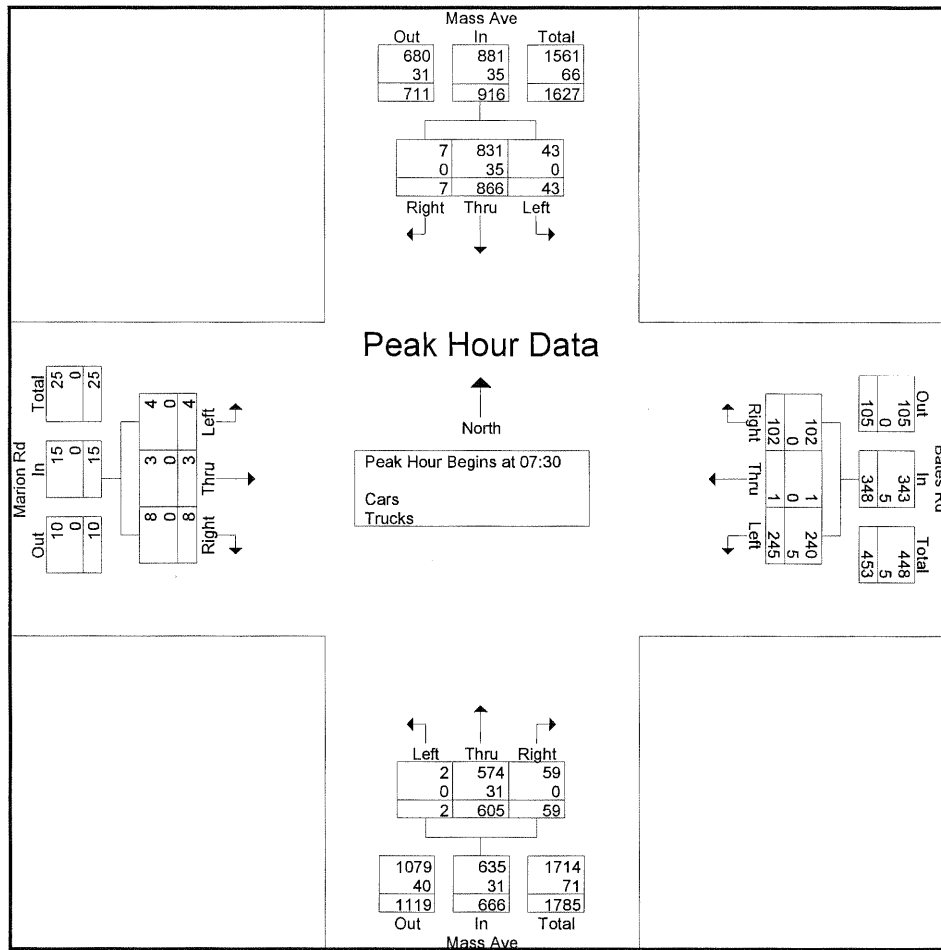
File Name : 01300002
 Site Code : 01300002
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars - Trucks

	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	1	133	0	50	0	17	0	63	14	1	0	2	281
07:15	7	188	2	67	0	23	1	110	7	0	0	1	406
07:30	11	178	0	71	0	20	0	160	15	1	0	2	458
07:45	10	196	0	70	0	25	0	122	21	2	1	3	450
Total	29	695	2	258	0	85	1	455	57	4	1	8	1595
08:00	16	272	2	52	0	27	2	150	10	1	2	2	536
08:15	6	220	5	52	1	30	0	173	13	0	0	1	501
08:30	6	181	0	53	1	28	0	156	17	2	0	4	448
08:45	11	191	1	74	1	19	0	136	14	3	0	3	453
Total	39	864	8	231	3	104	2	615	54	6	2	10	1938
Grand Total	68	1559	10	489	3	189	3	1070	111	10	3	18	3533
Apprch %	4.2	95.2	0.6	71.8	0.4	27.8	0.3	90.4	9.4	32.3	9.7	58.1	
Total %	1.9	44.1	0.3	13.8	0.1	5.3	0.1	30.3	3.1	0.3	0.1	0.5	
Cars	68	1492	10	483	3	189	3	1010	110	9	3	18	3398
% Cars	100	95.7	100	98.8	100	100	100	94.4	99.1	90	100	100	96.2
Trucks	0	67	0	6	0	0	0	60	1	1	0	0	135
% Trucks	0	4.3	0	1.2	0	0	0	5.6	0.9	10	0	0	3.8

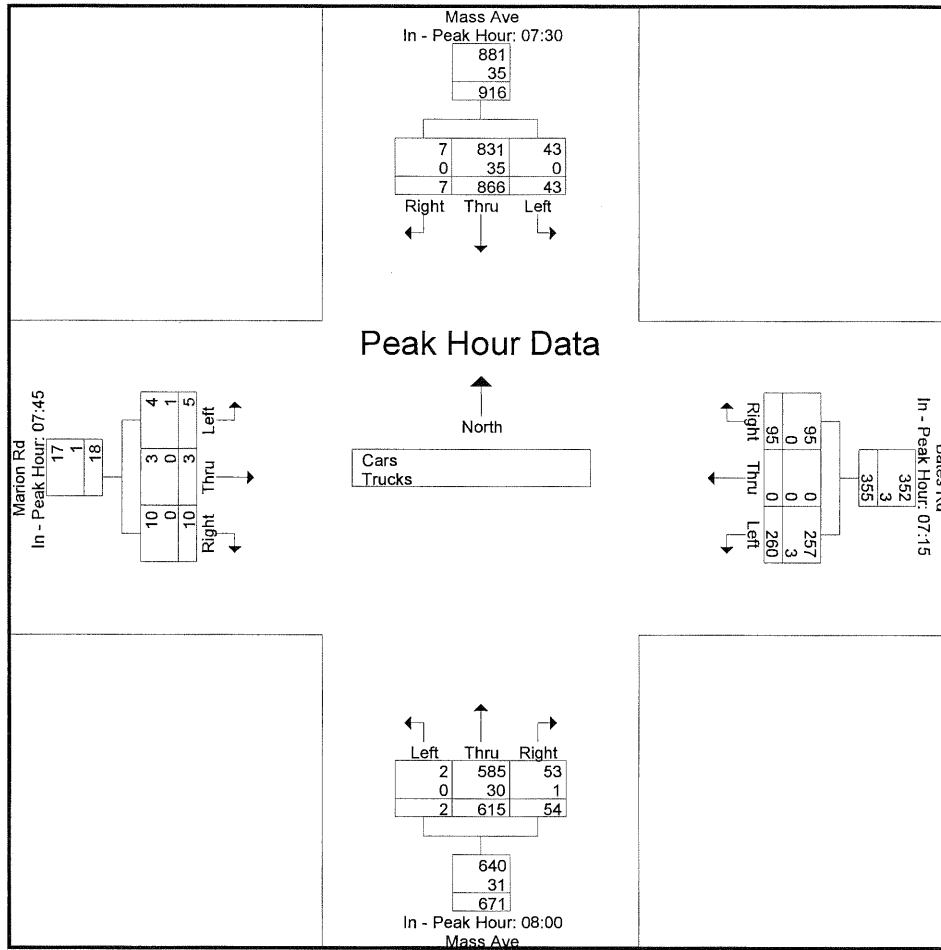
	Mass Ave From North				Bates Rd From East				Mass Ave From South				Marion Rd From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	11	178	0	189	71	0	20	91	0	160	15	175	1	0	2	3	458
07:45	10	196	0	206	70	0	25	95	0	122	21	143	2	1	3	6	450
08:00	16	272	2	290	52	0	27	79	2	150	10	162	1	2	2	5	536
08:15	6	220	5	231	52	1	30	83	0	173	13	186	0	0	1	1	501
Total Volume	43	866	7	916	245	1	102	348	2	605	59	666	4	3	8	15	1945
% App. Total	4.7	94.5	0.8		70.4	0.3	29.3		0.3	90.8	8.9		26.7	20	53.3		
PHF	.672	.796	.350	.790	.863	.250	.850	.916	.250	.874	.702	.895	.500	.375	.667	.625	.907
Cars	43	831	7	881	240	1	102	343	2	574	59	635	4	3	8	15	1874
% Cars	100	96.0	100	96.2	98.0	100	100	98.6	100	94.9	100	95.3	100	100	100	100	96.3
Trucks	0	35	0	35	5	0	0	5	0	31	0	31	0	0	0	0	71
% Trucks	0	4.0	0	3.8	2.0	0	0	1.4	0	5.1	0	4.7	0	0	0	0	3.7

File Name : 01300002
Site Code : 01300002
Start Date : 10/21/2008
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Peak Hour for Each Approach Begins at:

Peak Hour for Each Approach Begins at:																
	07:30				07:15				08:00				07:45			
+0 mins.	11	178	0	189	67	0	23	90	2	150	10	162	2	1	3	6
+15 mins.	10	196	0	206	71	0	20	91	0	173	13	186	1	2	2	5
+30 mins.	16	272	2	290	70	0	25	95	0	156	17	173	0	0	1	1
+45 mins.	6	220	5	231	52	0	27	79	0	136	14	150	2	0	4	6
Total Volume	43	866	7	916	260	0	95	355	2	615	54	671	5	3	10	18
% App. Total	4.7	94.5	0.8		73.2	0	26.8		0.3	91.7	8		27.8	16.7	55.6	
PHF	.672	.796	.350	.790	.915	.000	.880	.934	.250	.889	.794	.902	.625	.375	.625	.750
Cars	43	831	7	881	257	0	95	352	2	585	53	640	4	3	10	17
% Cars	100	96	100	96.2	98.8	0	100	99.2	100	95.1	98.1	95.4	80	100	100	94.4
Trucks	0	35	0	35	3	0	0	3	0	30	1	31	1	0	0	1
% Trucks	0	4	0	3.8	1.2	0	0	0.8	0	4.9	1.9	4.6	20	0	0	5.6



N/S Street : Massachusetts Avenue
E/W Street: Bates Rd / Marion Rd
City/State : Arlington, MA
Weather : Clear

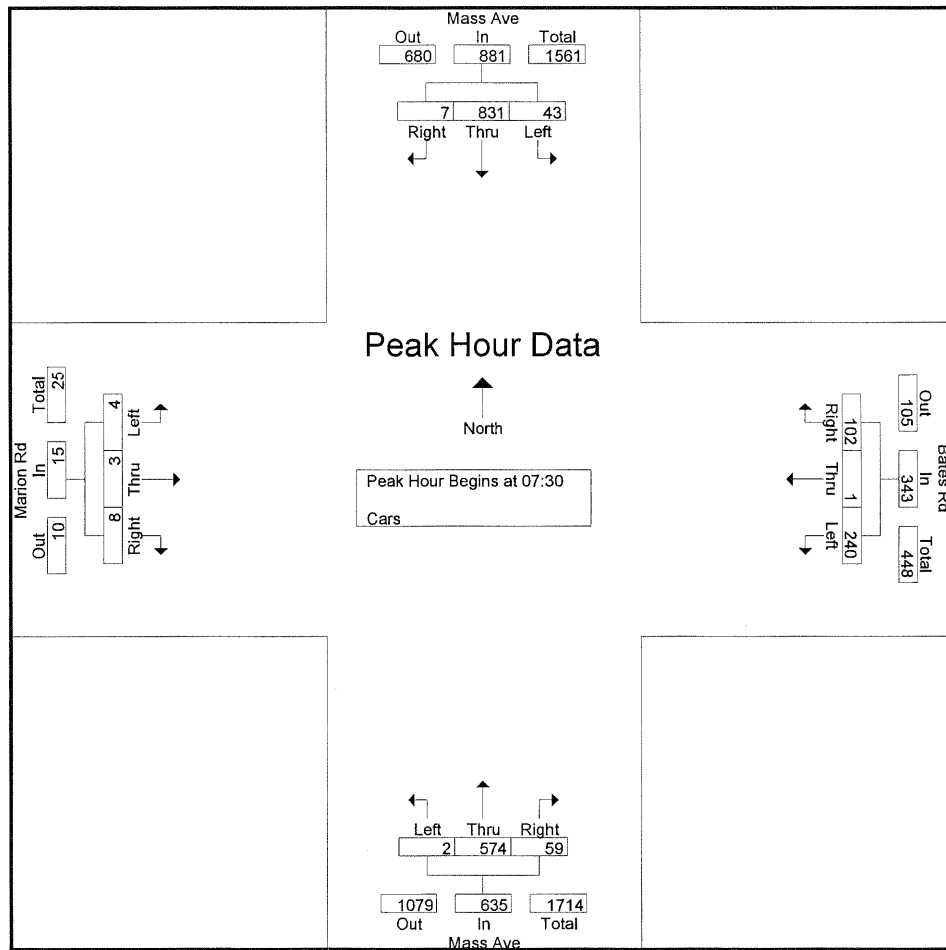
Accurate Counts
978-664-2565

File Name : 01300002
Site Code : 01300002
Start Date : 10/21/2008
Page No : 1

Groups Printed- Cars

Start Time	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	1	126	0	50	0	17	0	56	14	1	0	2	267
07:15	7	178	2	67	0	23	1	103	7	0	0	1	389
07:30	11	170	0	70	0	20	0	149	15	1	0	2	438
07:45	10	187	0	69	0	25	0	117	21	2	1	3	435
Total	29	661	2	256	0	85	1	425	57	4	1	8	1529
08:00	16	261	2	51	0	27	2	143	10	1	2	2	517
08:15	6	213	5	50	1	30	0	165	13	0	0	1	484
08:30	6	175	0	53	1	28	0	151	16	1	0	4	435
08:45	11	182	1	73	1	19	0	126	14	3	0	3	433
Total	39	831	8	227	3	104	2	585	53	5	2	10	1869
Grand Total	68	1492	10	483	3	189	3	1010	110	9	3	18	3398
Apprch %	4.3	95	0.6	71.6	0.4	28	0.3	89.9	9.8	30	10	60	
Total %	2	43.9	0.3	14.2	0.1	5.6	0.1	29.7	3.2	0.3	0.1	0.5	

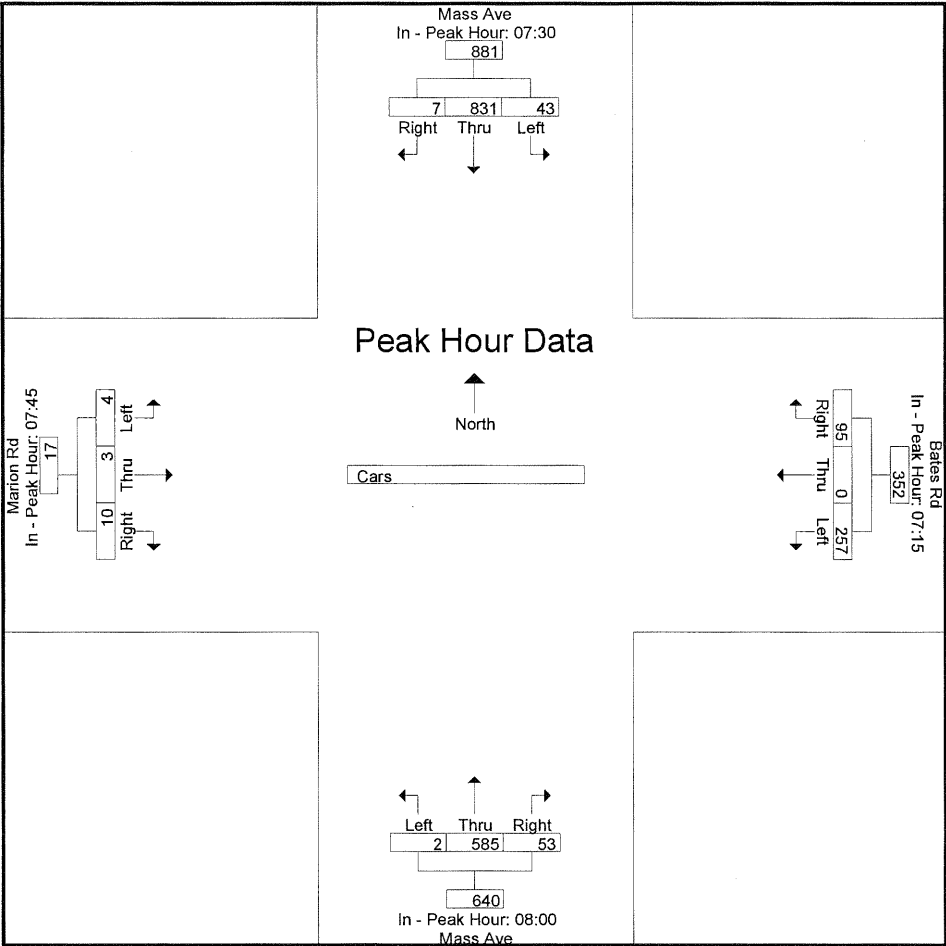
	Mass Ave From North				Bates Rd From East				Mass Ave From South				Marion Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	11	170	0	181	70	0	20	90	0	149	15	164	1	0	2	3	438
07:45	10	187	0	197	69	0	25	94	0	117	21	138	2	1	3	6	435
08:00	16	261	2	279	51	0	27	78	2	143	10	155	1	2	2	5	517
08:15	6	213	5	224	50	1	30	81	0	165	13	178	0	0	1	1	484
Total Volume	43	831	7	881	240	1	102	343	2	574	59	635	4	3	8	15	1874
% App. Total	4.9	94.3	0.8		70	0.3	29.7		0.3	90.4	9.3		26.7	20	53.3		
PHF	.672	.796	.350	.789	.857	.250	.850	.912	.250	.870	.702	.892	.500	.375	.667	.625	.906



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:15				08:00				07:45			
+0 mins.	11	170	0	181	67	0	23	90	2	143	10	155	2	1	3	6
+15 mins.	10	187	0	197	70	0	20	90	0	165	13	178	1	2	2	5
+30 mins.	16	261	2	279	69	0	25	94	0	151	16	167	0	0	1	1
+45 mins.	6	213	5	224	51	0	27	78	0	126	14	140	1	0	4	5
Total Volume	43	831	7	881	257	0	95	352	2	585	53	640	4	3	10	17
% App. Total	4.9	94.3	0.8		73	0	27		0.3	91.4	8.3		23.5	17.6	58.8	
PHF	.672	.796	.350	.789	.918	.000	.880	.936	.250	.886	.828	.899	.500	.375	.625	.708



N/S Street : Massachusetts Avenue
 E/W Street: Bates Rd / Marion Rd
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300002
 Site Code : 01300002
 Start Date : 10/21/2008
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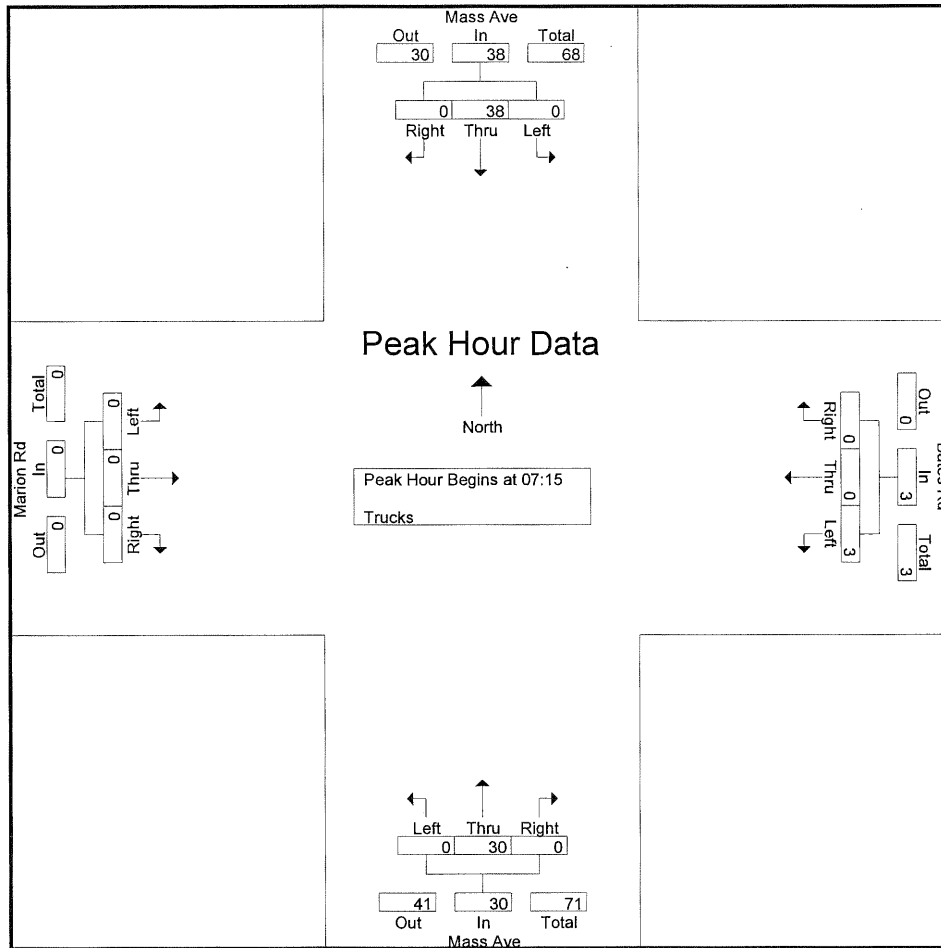
Groups Printed- Trucks

	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	7	0	0	0	0	0	7	0	0	0	0	14
07:15	0	10	0	0	0	0	0	7	0	0	0	0	17
07:30	0	8	0	1	0	0	0	11	0	0	0	0	20
07:45	0	9	0	1	0	0	0	5	0	0	0	0	15
Total	0	34	0	2	0	0	0	30	0	0	0	0	66
08:00	0	11	0	1	0	0	0	7	0	0	0	0	19
08:15	0	7	0	2	0	0	0	8	0	0	0	0	17
08:30	0	6	0	0	0	0	0	5	1	1	0	0	13
08:45	0	9	0	1	0	0	0	10	0	0	0	0	20
Total	0	33	0	4	0	0	0	30	1	1	0	0	69
Grand Total	0	67	0	6	0	0	0	60	1	1	0	0	135
Apprch %	0	100	0	100	0	0	0	98.4	1.6	100	0	0	
Total %	0	49.6	0	4.4	0	0	0	44.4	0.7	0.7	0	0	

	Mass Ave From North				Bates Rd From East				Mass Ave From South				Marion Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	10	0	10	0	0	0	0	0	7	0	7	0	0	0	0	17
07:30	0	8	0	8	1	0	0	1	0	11	0	11	0	0	0	0	20
07:45	0	9	0	9	1	0	0	1	0	5	0	5	0	0	0	0	15
08:00	0	11	0	11	1	0	0	1	0	7	0	7	0	0	0	0	19
Total Volume	0	38	0	38	3	0	0	3	0	30	0	30	0	0	0	0	71
% App. Total	0	100	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.864	.000	.864	.750	.000	.000	.750	.000	.682	.000	.682	.000	.000	.000	.000	.888

Accurate Counts
978-664-2565

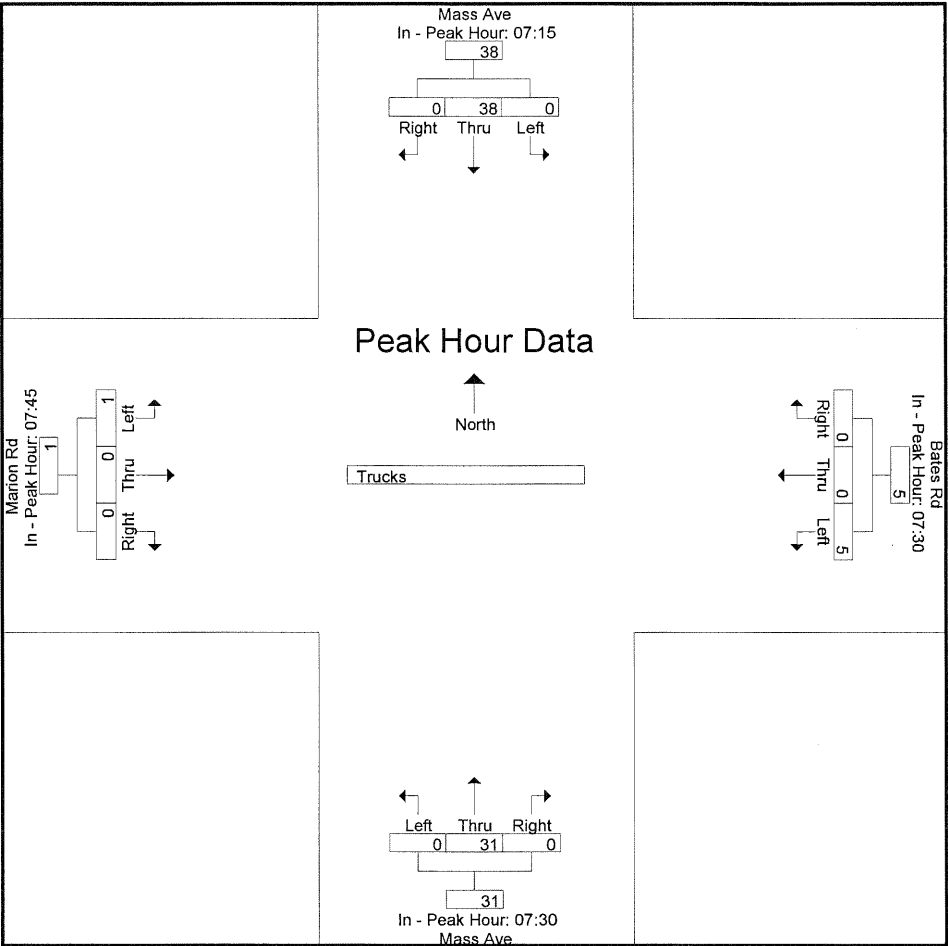
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Site Code : 01300002
Start Date : 10/21/2008
Page No : 2



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15				07:30				07:30				07:45			
+0 mins.	0	10	0	10	1	0	0	1	0	11	0	11	0	0	0	0
+15 mins.	0	8	0	8	1	0	0	1	0	5	0	5	0	0	0	0
+30 mins.	0	9	0	9	1	0	0	1	0	7	0	7	0	0	0	0
+45 mins.	0	11	0	11	2	0	0	2	0	8	0	8	1	0	0	1
Total Volume	0	38	0	38	5	0	0	5	0	31	0	31	1	0	0	1
% App. Total	0	100	0		100	0	0		0	100	0		100	0	0	
PHF	.000	.864	.000	.864	.625	.000	.000	.625	.000	.705	.000	.705	.250	.000	.000	.250



N/S Street : Massachusetts Avenue
 E/W Street: Bates Rd / Marion Rd
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300002
 Site Code : 01300002
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

	Mass Ave From North		Bates Rd From East		Mass Ave From South		Marion Rd From West		
Start Time	WB	EB	NB	SB	EB	WB	NB	SB	Int. Total
07:00	0	1	0	0	0	0	0	1	2
07:15	0	0	0	0	0	0	0	1	1
07:30	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	2	3
08:00	2	0	0	0	0	1	0	1	4
08:15	0	0	0	0	0	1	0	0	1
08:30	0	0	0	0	0	3	0	0	3
08:45	0	0	0	0	0	1	0	0	1
Total	2	0	0	0	0	6	0	1	9
Grand Total	2	1	0	0	0	6	0	3	12
Apprch %	66.7	33.3	0	0	0	100	0	100	
Total %	16.7	8.3	0	0	0	50	0	25	

	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	NB	SB	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00													
08:00	2	0	2	0	0	0	0	1	1	0	1	1	4
08:15	0	0	0	0	0	0	0	1	1	0	0	0	1
08:30	0	0	0	0	0	0	0	3	3	0	0	0	3
08:45	0	0	0	0	0	0	0	1	1	0	0	0	1
Total Volume	2	0	2	0	0	0	0	6	6	0	1	1	9
% App. Total	100	0		0	0		0	100		0	100		
PHF	.250	.000	.250	.000	.000	.000	.000	.500	.500	.000	.250	.250	.563

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15			07:00			08:00			07:00		
+0 mins.	0	0	0	0	0	0	0	1	1	0	1	1
+15 mins.	0	0	0	0	0	0	0	1	1	0	1	1
+30 mins.	0	0	0	0	0	0	0	3	3	0	0	0
+45 mins.	2	0	2	0	0	0	0	1	1	0	0	0
Total Volume	2	0	2	0	0	0	0	6	6	0	2	2
% App. Total	100	0		0	0		0	100		0	100	
PHF	.250	.000	.250	.000	.000	.000	.000	.500	.500	.000	.500	.500

N/S Street : Massachusetts Avenue
 E/W Street: Bates Rd / Marion Rd
 City/State : Arlington, MA
 Weather : Clear

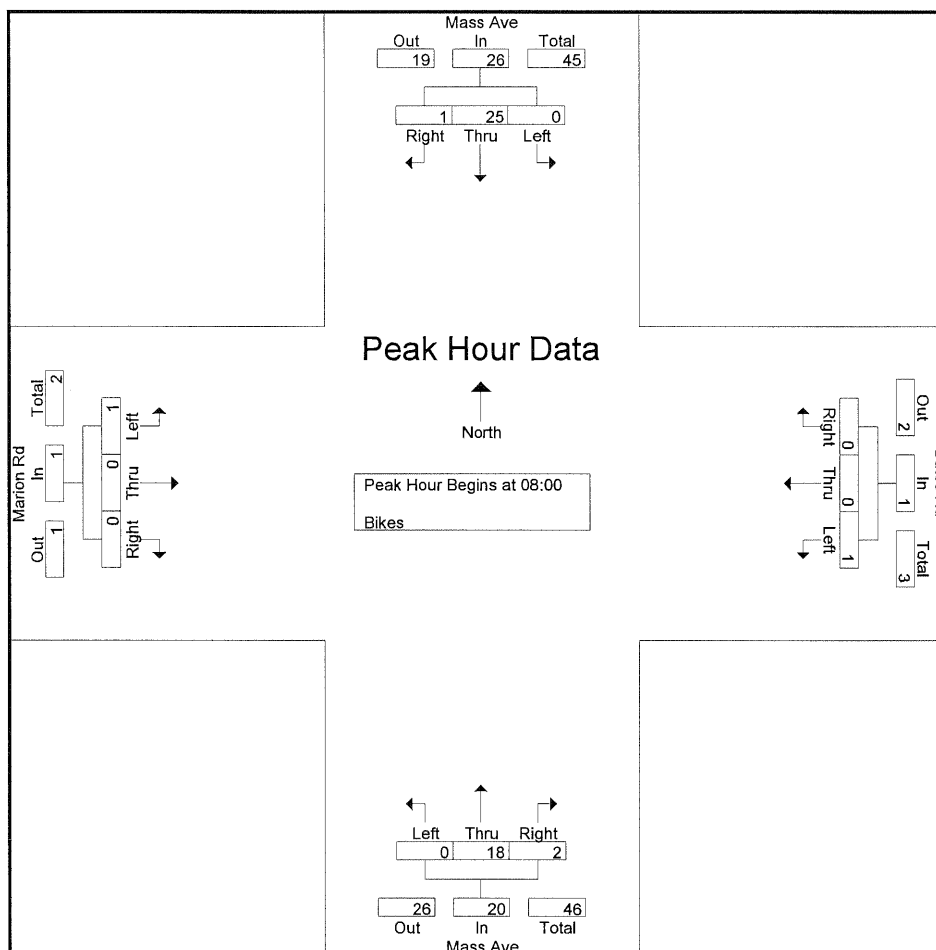
Accurate Counts
 978-664-2565

File Name : 01300002
 Site Code : 01300002
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

Start Time	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	1	1	0	0	0	1	1	0	0	0	0	4
07:15	0	1	0	2	0	0	0	8	0	0	0	0	11
07:30	0	2	0	0	0	0	0	3	0	0	0	0	5
07:45	0	5	0	1	0	0	0	1	0	0	0	0	7
Total	0	9	1	3	0	0	1	13	0	0	0	0	27
08:00	0	7	0	1	0	0	0	6	0	0	0	0	14
08:15	0	11	0	0	0	0	0	3	1	0	0	0	15
08:30	0	5	1	0	0	0	0	5	0	0	0	0	11
08:45	0	2	0	0	0	0	0	4	1	1	0	0	8
Total	0	25	1	1	0	0	0	18	2	1	0	0	48
Grand Total	0	34	2	4	0	0	1	31	2	1	0	0	75
Apprch %	0	94.4	5.6	100	0	0	2.9	91.2	5.9	100	0	0	
Total %	0	45.3	2.7	5.3	0	0	1.3	41.3	2.7	1.3	0	0	

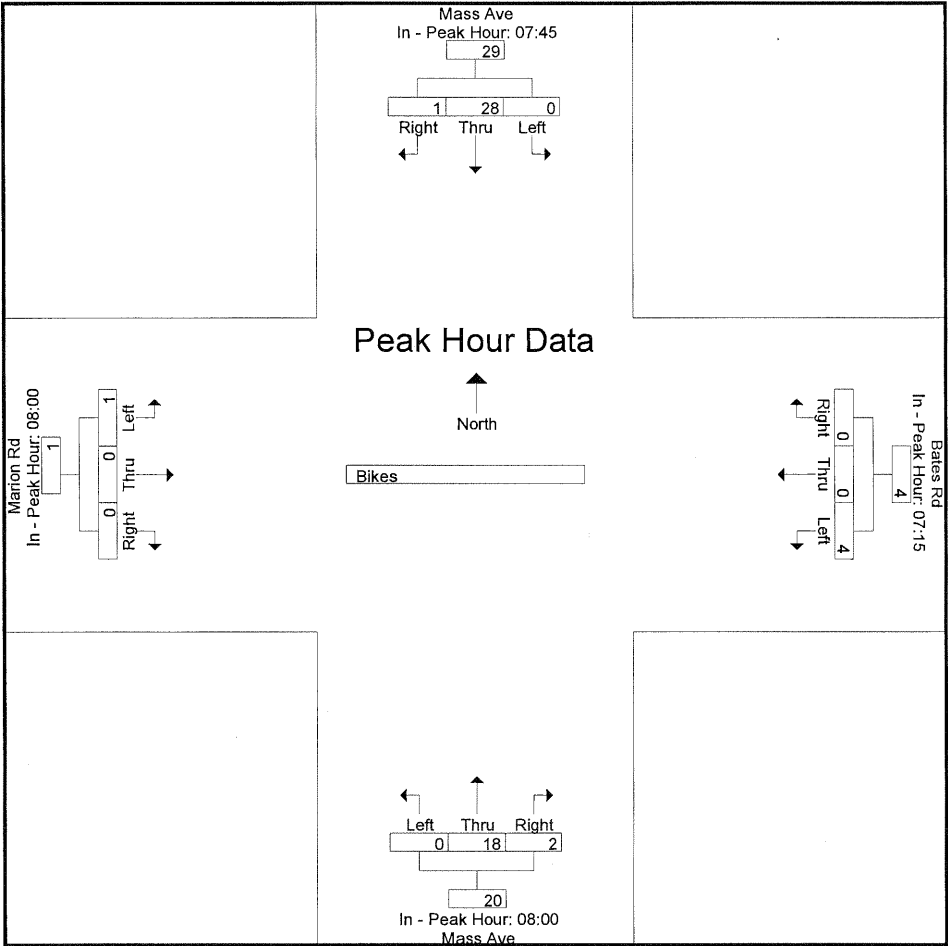
	Mass Ave From North				Bates Rd From East				Mass Ave From South				Marion Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00																	
08:00	0	7	0	7	1	0	0	1	0	6	0	6	0	0	0	0	14
08:15	0	11	0	11	0	0	0	0	0	3	1	4	0	0	0	0	15
08:30	0	5	1	6	0	0	0	0	0	5	0	5	0	0	0	0	11
08:45	0	2	0	2	0	0	0	0	0	4	1	5	1	0	0	1	8
Total Volume	0	25	1	26	1	0	0	1	0	18	2	20	1	0	0	1	48
% App. Total	0	96.2	3.8		100	0	0		0	90	10		100	0	0		
PHF	.000	.568	.250	.591	.250	.000	.000	.250	.000	.750	.500	.833	.250	.000	.000	.250	.800



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45				07:15				08:00				08:00			
+0 mins.	0	5	0	5	2	0	0	2	0	6	0	6	0	0	0	0
+15 mins.	0	7	0	7	0	0	0	0	0	3	1	4	0	0	0	0
+30 mins.	0	11	0	11	1	0	0	1	0	5	0	5	0	0	0	0
+45 mins.	0	5	1	6	1	0	0	1	0	4	1	5	1	0	0	1
Total Volume	0	28	1	29	4	0	0	4	0	18	2	20	1	0	0	1
% App. Total	0	96.6	3.4		100	0	0		0	90	10		100	0	0	
PHF	.000	.636	.250	.659	.500	.000	.000	.500	.000	.750	.500	.833	.250	.000	.000	.250



N/S Street : Massachusetts Avenue
E/W Street: Bates Rd / Marion Rd
City/State : Arlington, MA
Weather : Clear

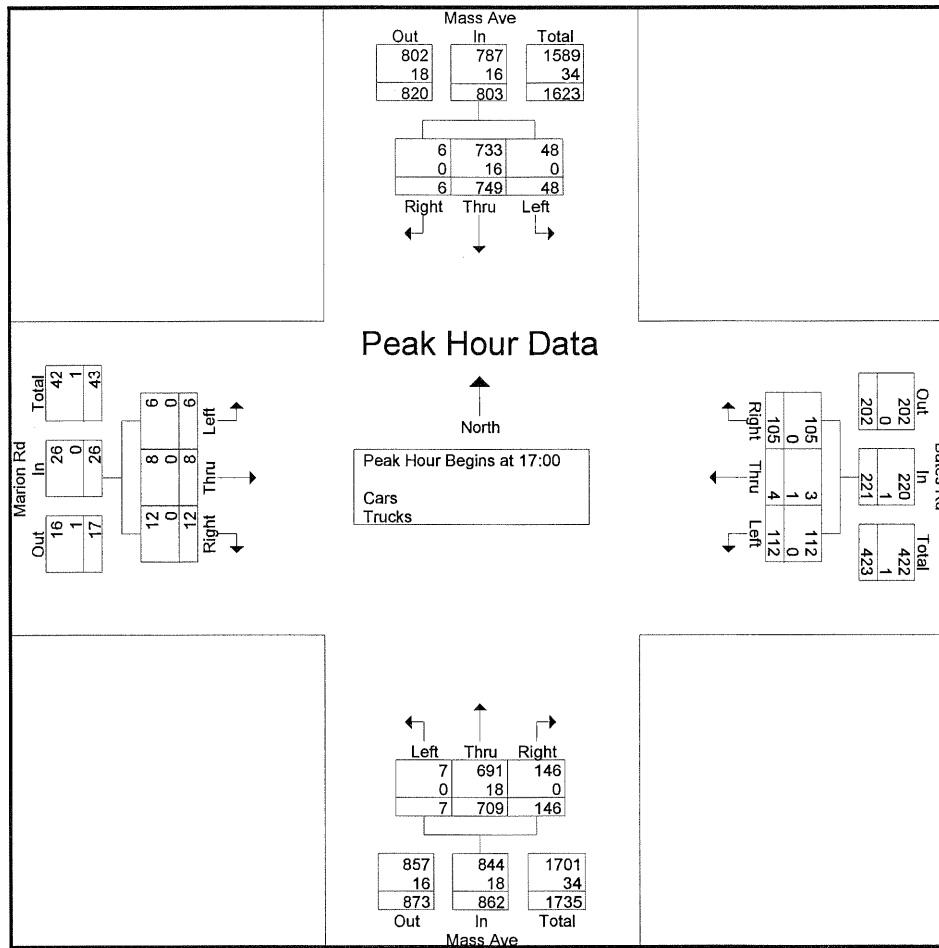
Accurate Counts
978-664-2565

File Name : 01300002
Site Code : 01300002
Start Date : 10/21/2008
Page No : 1

Groups Printed- Cars - Trucks

	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	8	149	2	25	2	17	1	164	32	1	0	0	401
16:15	10	149	2	25	0	13	0	157	52	3	0	3	414
16:30	10	154	0	27	0	21	3	141	38	1	1	3	399
16:45	4	161	2	19	0	17	3	177	36	5	2	0	426
Total	32	613	6	96	2	68	7	639	158	10	3	6	1640
17:00	9	177	1	24	0	24	1	180	37	2	2	1	458
17:15	17	179	0	23	1	30	3	175	38	3	1	4	474
17:30	11	181	1	32	3	23	1	190	36	0	2	4	484
17:45	11	212	4	33	0	28	2	164	35	1	3	3	496
Total	48	749	6	112	4	105	7	709	146	6	8	12	1912
Grand Total	80	1362	12	208	6	173	14	1348	304	16	11	18	3552
Apprch %	5.5	93.7	0.8	53.7	1.6	44.7	0.8	80.9	18.2	35.6	24.4	40	
Total %	2.3	38.3	0.3	5.9	0.2	4.9	0.4	38	8.6	0.5	0.3	0.5	
Cars	80	1329	12	208	5	173	14	1310	304	15	11	18	3479
% Cars	100	97.6	100	100	83.3	100	100	97.2	100	93.8	100	100	97.9
Trucks	0	33	0	0	1	0	0	38	0	1	0	0	73
% Trucks	0	2.4	0	0	16.7	0	0	2.8	0	6.2	0	0	2.1

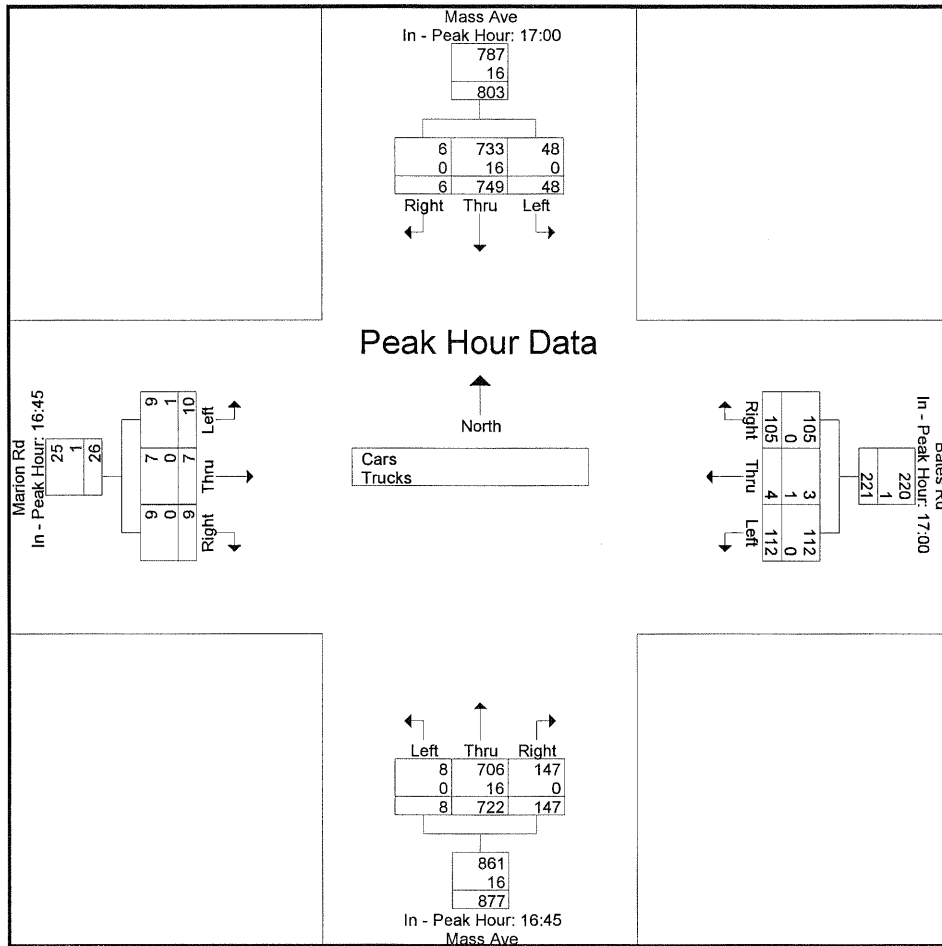
	Mass Ave From North				Bates Rd From East				Mass Ave From South				Marion Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	9	177	1	187	24	0	24	48	1	180	37	218	2	2	1	5	458
17:15	17	179	0	196	23	1	30	54	3	175	38	216	3	1	4	8	474
17:30	11	181	1	193	32	3	23	58	1	190	36	227	0	2	4	6	484
17:45	11	212	4	227	33	0	28	61	2	164	35	201	1	3	3	7	496
Total Volume	48	749	6	803	112	4	105	221	7	709	146	862	6	8	12	26	1912
% App. Total	6	93.3	0.7		50.7	1.8	47.5		0.8	82.3	16.9		23.1	30.8	46.2		
PHF	.706	.883	.375	.884	.848	.333	.875	.906	.583	.933	.961	.949	.500	.667	.750	.813	.964
Cars	48	733	6	787	112	3	105	220	7	691	146	844	6	8	12	26	1877
% Cars	100	97.9	100	98.0	100	75.0	100	99.5	100	97.5	100	97.9	100	100	100	100	98.2
Trucks	0	16	0	16	0	1	0	1	0	18	0	18	0	0	0	0	35
% Trucks	0	2.1	0	2.0	0	25.0	0	0.5	0	2.5	0	2.1	0	0	0	0	1.8



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				17:00				16:45				16:45			
+0 mins.	9	177	1	187	24	0	24	48	3	177	36	216	5	2	0	7
+15 mins.	17	179	0	196	23	1	30	54	1	180	37	218	2	2	1	5
+30 mins.	11	181	1	193	32	3	23	58	3	175	38	216	3	1	4	8
+45 mins.	11	212	4	227	33	0	28	61	1	190	36	227	0	2	4	6
Total Volume	48	749	6	803	112	4	105	221	8	722	147	877	10	7	9	26
% App. Total	6	93.3	0.7		50.7	1.8	47.5		0.9	82.3	16.8		38.5	26.9	34.6	
PHF	.706	.883	.375	.884	.848	.333	.875	.906	.667	.950	.967	.966	.500	.875	.563	.813
Cars	48	733	6	787	112	3	105	220	8	706	147	861	9	7	9	25
% Cars	100	97.9	100	98	100	75	100	99.5	100	97.8	100	98.2	90	100	100	96.2
Trucks	0	16	0	16	0	1	0	1	0	16	0	16	1	0	0	1
% Trucks	0	2.1	0	2	0	25	0	0.5	0	2.2	0	1.8	10	0	0	3.8



N/S Street : Massachusetts Avenue
 E/W Street: Bates Rd / Marion Rd
 City/State : Arlington, MA
 Weather : Clear

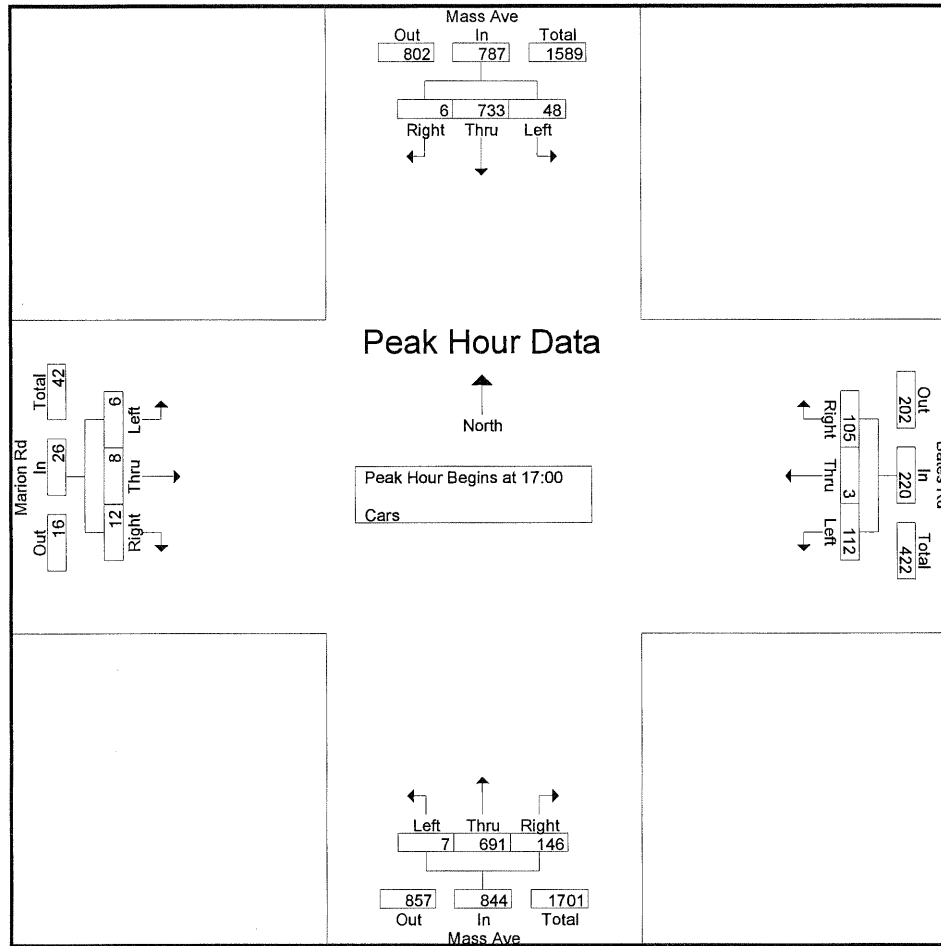
Accurate Counts
 978-664-2565

File Name : 01300002
 Site Code : 01300002
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	8	146	2	25	2	17	1	157	32	1	0	0	391
16:15	10	142	2	25	0	13	0	152	52	3	0	3	402
16:30	10	151	0	27	0	21	3	136	38	1	1	3	391
16:45	4	157	2	19	0	17	3	174	36	4	2	0	418
Total	32	596	6	96	2	68	7	619	158	9	3	6	1602
17:00	9	172	1	24	0	24	1	175	37	2	2	1	448
17:15	17	178	0	23	1	30	3	172	38	3	1	4	470
17:30	11	175	1	32	2	23	1	185	36	0	2	4	472
17:45	11	208	4	33	0	28	2	159	35	1	3	3	487
Total	48	733	6	112	3	105	7	691	146	6	8	12	1877
Grand Total	80	1329	12	208	5	173	14	1310	304	15	11	18	3479
Apprch %	5.6	93.5	0.8	53.9	1.3	44.8	0.9	80.5	18.7	34.1	25	40.9	
Total %	2.3	38.2	0.3	6	0.1	5	0.4	37.7	8.7	0.4	0.3	0.5	

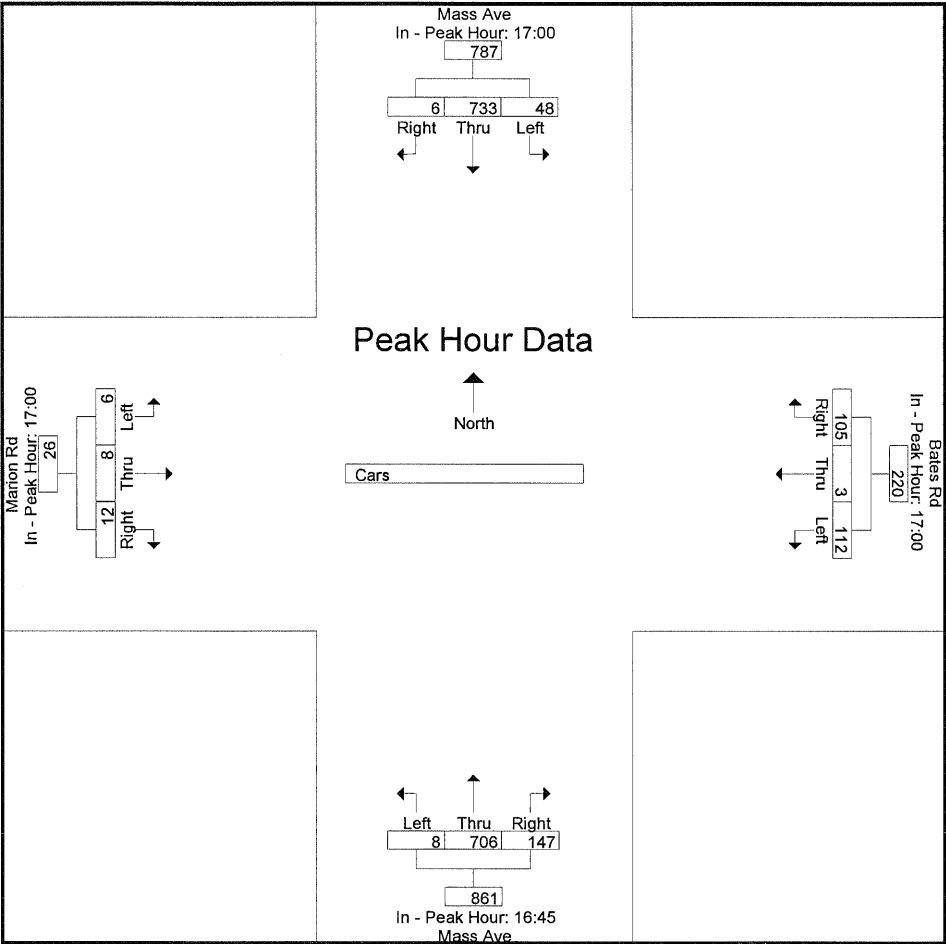
	Mass Ave From North				Bates Rd From East				Mass Ave From South				Marion Rd From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	9	172	1	182	24	0	24	48	1	175	37	213	2	2	1	5	448
17:15	17	178	0	195	23	1	30	54	3	172	38	213	3	1	4	8	470
17:30	11	175	1	187	32	2	23	57	1	185	36	222	0	2	4	6	472
17:45	11	208	4	223	33	0	28	61	2	159	35	196	1	3	3	7	487
Total Volume	48	733	6	787	112	3	105	220	7	691	146	844	6	8	12	26	1877
% App. Total	6.1	93.1	0.8		50.9	1.4	47.7		0.8	81.9	17.3		23.1	30.8	46.2		
PHF	.706	.881	.375	.882	.848	.375	.875	.902	.583	.934	.961	.950	.500	.667	.750	.813	.964



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				17:00				16:45				17:00			
+0 mins.	9	172	1	182	24	0	24	48	3	174	36	213	2	2	1	5
+15 mins.	17	178	0	195	23	1	30	54	1	175	37	213	3	1	4	8
+30 mins.	11	175	1	187	32	2	23	57	3	172	38	213	0	2	4	6
+45 mins.	11	208	4	223	33	0	28	61	1	185	36	222	1	3	3	7
Total Volume	48	733	6	787	112	3	105	220	8	706	147	861	6	8	12	26
% App. Total	6.1	93.1	0.8		50.9	1.4	47.7		0.9	82	17.1		23.1	30.8	46.2	
PHF	.706	.881	.375	.882	.848	.375	.875	.902	.667	.954	.967	.970	.500	.667	.750	.813



N/S Street : Massachusetts Avenue
 E/W Street: Bates Rd / Marion Rd
 City/State : Arlington, MA
 Weather : Clear

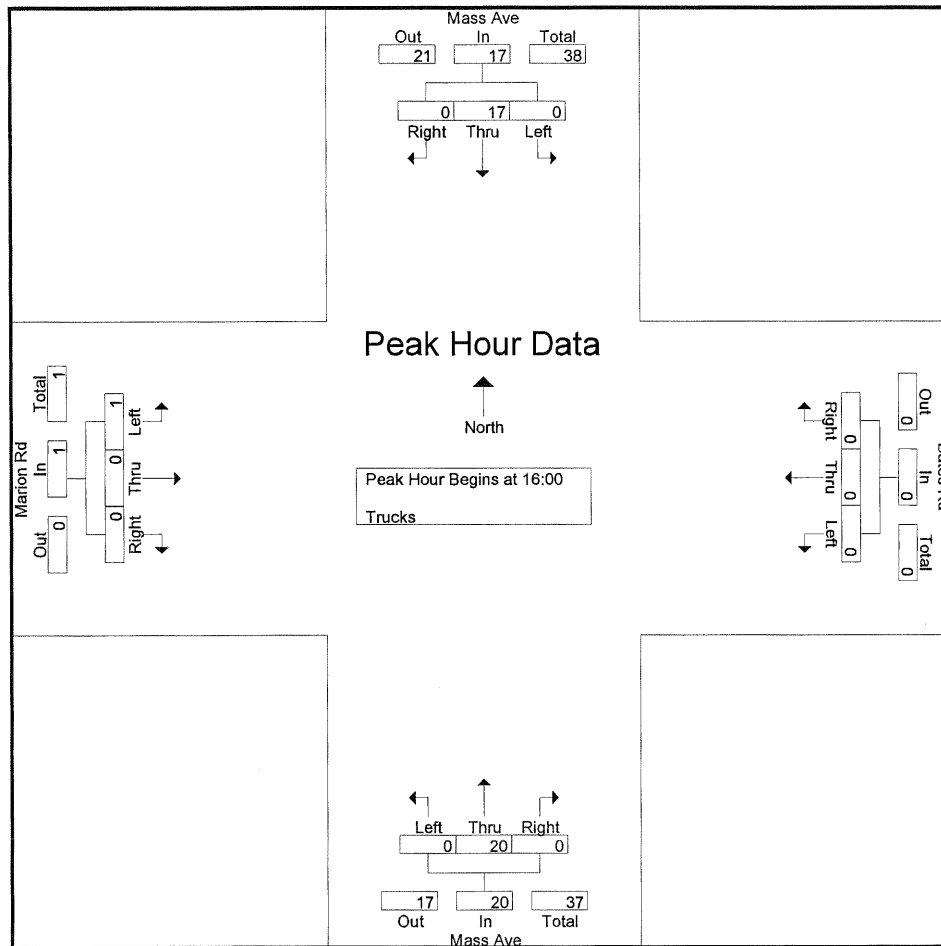
Accurate Counts
 978-664-2565

File Name : 01300002
 Site Code : 01300002
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Trucks

	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	0	3	0	0	0	0	0	7	0	0	0	0	10
16:15	0	7	0	0	0	0	0	5	0	0	0	0	12
16:30	0	3	0	0	0	0	0	5	0	0	0	0	8
16:45	0	4	0	0	0	0	0	3	0	1	0	0	8
Total	0	17	0	0	0	0	0	20	0	1	0	0	38
17:00	0	5	0	0	0	0	0	5	0	0	0	0	10
17:15	0	1	0	0	0	0	0	3	0	0	0	0	4
17:30	0	6	0	0	1	0	0	5	0	0	0	0	12
17:45	0	4	0	0	0	0	0	5	0	0	0	0	9
Total	0	16	0	0	1	0	0	18	0	0	0	0	35
Grand Total	0	33	0	0	1	0	0	38	0	1	0	0	73
Apprch %	0	100	0	0	100	0	0	100	0	100	0	0	
Total %	0	45.2	0	0	1.4	0	0	52.1	0	1.4	0	0	

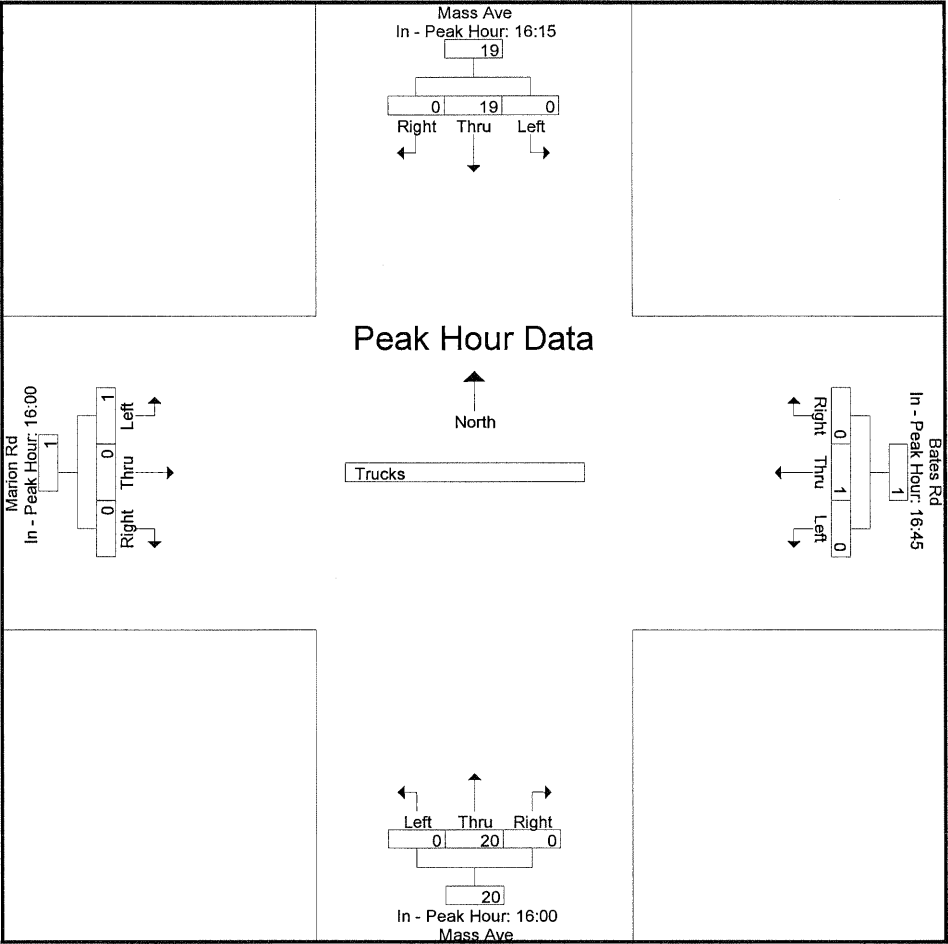
	Mass Ave From North				Bates Rd From East				Mass Ave From South				Marion Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
16:15	0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0	12
16:30	0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
16:45	0	4	0	4	0	0	0	0	0	3	0	3	1	0	0	1	8
Total Volume	0	17	0	17	0	0	0	0	0	20	0	20	1	0	0	1	38
% App. Total	0	100	0		0	0	0		0	100	0		100	0	0		
PHF	.000	.607	.000	.607	.000	.000	.000	.000	.000	.714	.000	.714	.250	.000	.000	.250	.792



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:15				16:45				16:00				16:00			
+0 mins.	0	7	0	7	0	0	0	0	0	7	0	7	0	0	0	0
+15 mins.	0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0
+30 mins.	0	4	0	4	0	0	0	0	0	5	0	5	0	0	0	0
+45 mins.	0	5	0	5	0	1	0	1	0	3	0	3	1	0	0	1
Total Volume	0	19	0	19	0	1	0	1	0	20	0	20	1	0	0	1
% App. Total	0	100	0		0	100	0		0	100	0		100	0	0	
PHF	.000	.679	.000	.679	.000	.250	.000	.250	.000	.714	.000	.714	.250	.000	.000	.250



N/S Street : Massachusetts Avenue
E/W Street: Bates Rd / Marion Rd
City/State : Arlington, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 01300002
Site Code : 01300002
Start Date : 10/21/2008
Page No : 1

Groups Printed- Peds

	Mass Ave From North		Bates Rd From East		Mass Ave From South		Marion Rd From West		
Start Time	WB	EB	NB	SB	EB	WB	NB	SB	Int. Total
16:00	0	0	4	2	0	0	3	3	12
16:15	0	0	0	4	0	0	4	2	10
16:30	0	0	2	3	0	0	2	0	7
16:45	0	0	1	3	0	0	2	0	6
Total	0	0	7	12	0	0	11	5	35
17:00	0	0	2	3	0	0	0	5	10
17:15	0	0	2	3	0	0	2	1	8
17:30	0	0	2	1	0	0	6	3	12
17:45	0	0	2	3	0	0	2	1	8
Total	0	0	8	10	0	0	10	10	38
Grand Total	0	0	15	22	0	0	21	15	73
Apprch %	0	0	40.5	59.5	0	0	58.3	41.7	
Total %	0	0	20.5	30.1	0	0	28.8	20.5	

	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	NB	SB	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 17:00													
17:00	0	0	0	2	3	5	0	0	0	0	5	5	10
17:15	0	0	0	2	3	5	0	0	0	2	1	3	8
17:30	0	0	0	2	1	3	0	0	0	6	3	9	12
17:45	0	0	0	2	3	5	0	0	0	2	1	3	8
Total Volume	0	0	0	8	10	18	0	0	0	10	10	20	38
% App. Total	0	0		44.4	55.6		0	0		50	50		
PHF	.000	.000	.000	1.000	.833	.900	.000	.000	.000	.417	.500	.556	.792

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00			16:00			16:00			17:00			
+0 mins.	0	0	0	4	2	6	0	0	0	0	5	5	
+15 mins.	0	0	0	0	4	4	0	0	0	2	1	3	
+30 mins.	0	0	0	2	3	5	0	0	0	6	3	9	
+45 mins.	0	0	0	1	3	4	0	0	0	2	1	3	
Total Volume	0	0	0	7	12	19	0	0	0	10	10	20	
% App. Total	0	0		36.8	63.2		0	0		50	50		
PHF	.000	.000	.000	.438	.750	.792	.000	.000	.000	.417	.500	.556	

N/S Street : Massachusetts Avenue
 E/W Street: Bates Rd / Marion Rd
 City/State : Arlington, MA
 Weather : Clear

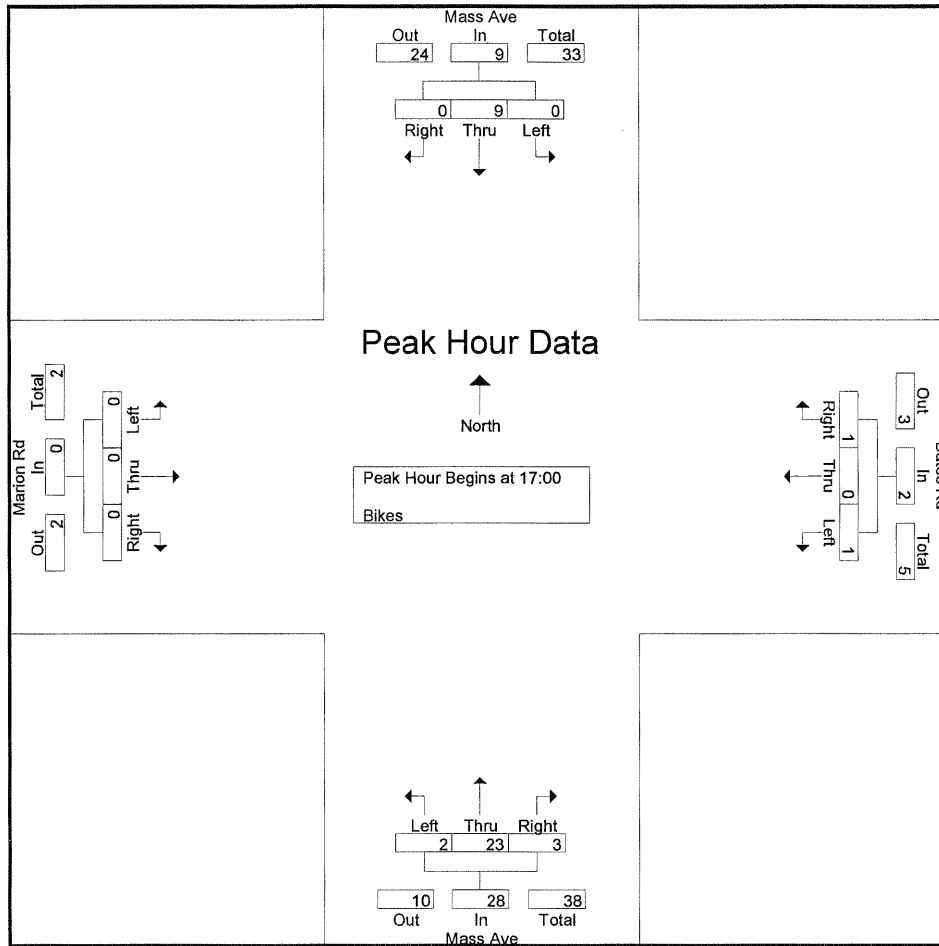
Accurate Counts
 978-664-2565

File Name : 01300002
 Site Code : 01300002
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

	Mass Ave From North			Bates Rd From East			Mass Ave From South			Marion Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	0	2	0	0	0	0	0	2	1	0	0	1	6
16:15	0	1	0	0	0	0	0	3	0	0	0	0	4
16:30	0	1	0	0	0	0	0	2	1	0	0	0	4
16:45	0	0	0	0	0	0	0	4	1	0	0	0	5
Total	0	4	0	0	0	0	0	11	3	0	0	1	19
17:00	0	0	0	0	0	0	0	3	0	0	0	0	3
17:15	0	5	0	0	0	0	1	4	2	0	0	0	12
17:30	0	3	0	0	0	0	0	7	0	0	0	0	10
17:45	0	1	0	1	0	1	1	9	1	0	0	0	14
Total	0	9	0	1	0	1	2	23	3	0	0	0	39
Grand Total	0	13	0	1	0	1	2	34	6	0	0	1	58
Apprch %	0	100	0	50	0	50	4.8	81	14.3	0	0	100	
Total %	0	22.4	0	1.7	0	1.7	3.4	58.6	10.3	0	0	1.7	

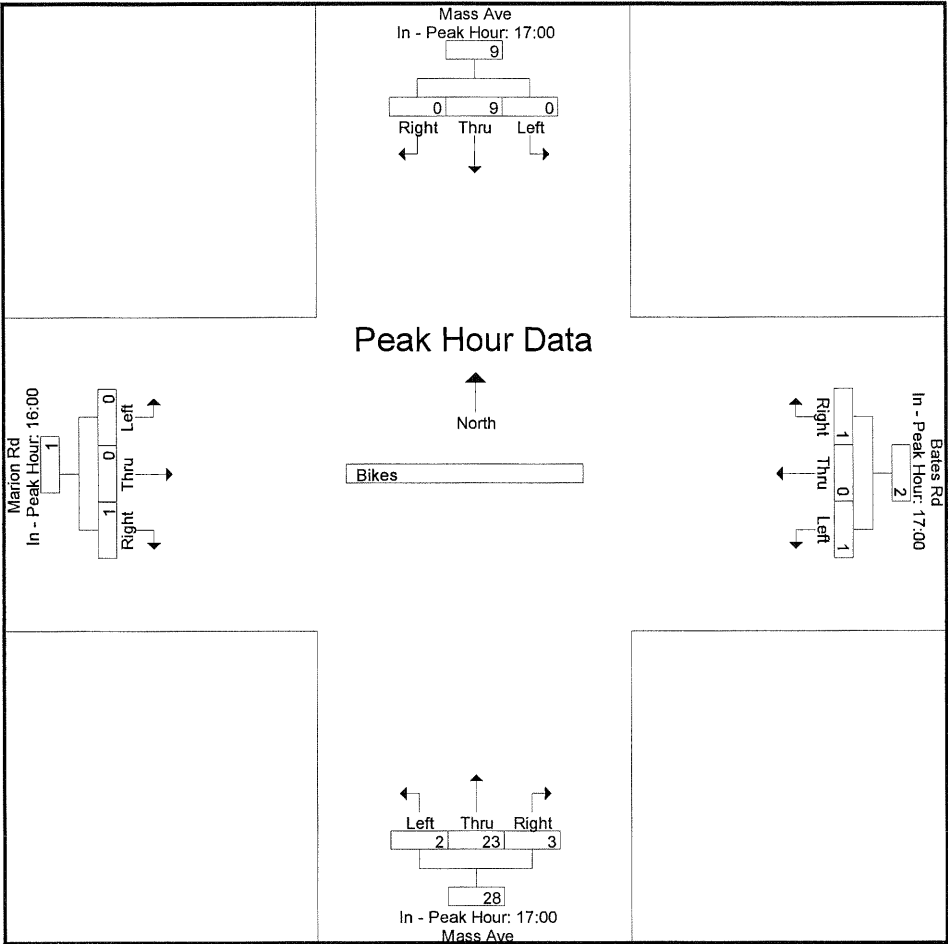
	Mass Ave From North				Bates Rd From East				Mass Ave From South				Marion Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
17:15	0	5	0	5	0	0	0	0	1	4	2	7	0	0	0	0	12
17:30	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
17:45	0	1	0	1	1	0	1	2	1	9	1	11	0	0	0	0	14
Total Volume	0	9	0	9	1	0	1	2	2	23	3	28	0	0	0	0	39
% App. Total	0	100	0		50	0	50		7.1	82.1	10.7		0	0	0		
PHF	.000	.450	.000	.450	.250	.000	.250	.250	.500	.639	.375	.636	.000	.000	.000	.000	.696



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				17:00				17:00				16:00			
+0 mins.	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	1
+15 mins.	0	5	0	5	0	0	0	0	1	4	2	7	0	0	0	0
+30 mins.	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0
+45 mins.	0	1	0	1	1	0	1	2	1	9	1	11	0	0	0	0
Total Volume	0	9	0	9	1	0	1	2	2	23	3	28	0	0	1	1
% App. Total	0	100	0		50	0	50		7.1	82.1	10.7		0	0	100	
PHF	.000	.450	.000	.450	.250	.000	.250	.250	.500	.639	.375	.636	.000	.000	.250	.250



N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

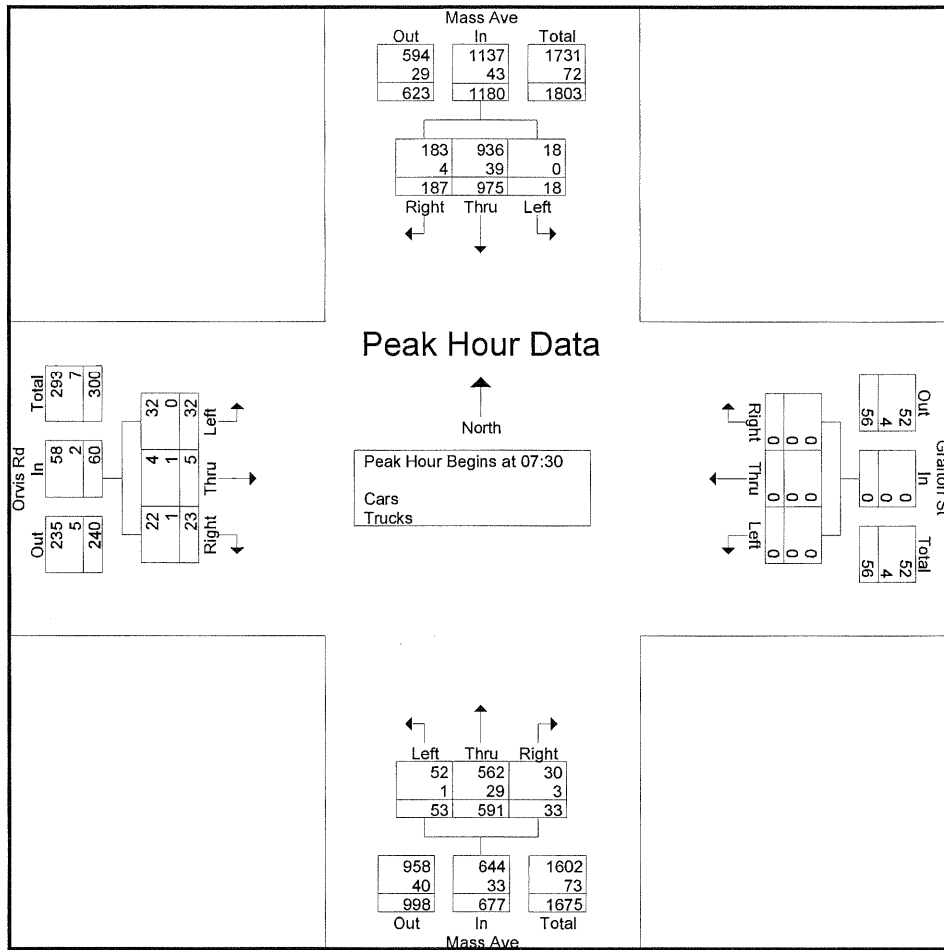
Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars - Trucks

	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	4	134	43	0	0	0	5	74	4	4	1	6	275
07:15	5	199	49	0	0	0	14	86	5	6	6	3	373
07:30	0	211	63	0	0	0	13	157	6	7	3	5	465
07:45	3	242	51	0	0	0	12	121	8	8	1	6	452
Total	12	786	206	0	0	0	44	438	23	25	11	20	1565
08:00	8	286	40	0	0	0	14	147	10	5	0	6	516
08:15	7	236	33	0	0	0	14	166	9	12	1	6	484
08:30	4	204	47	0	0	0	17	151	5	7	1	4	440
08:45	6	219	51	0	0	0	17	131	2	11	0	4	441
Total	25	945	171	0	0	0	62	595	26	35	2	20	1881
Grand Total	37	1731	377	0	0	0	106	1033	49	60	13	40	3446
Apprch %	1.7	80.7	17.6	0	0	0	8.9	87	4.1	53.1	11.5	35.4	
Total %	1.1	50.2	10.9	0	0	0	3.1	30	1.4	1.7	0.4	1.2	
Cars	34	1659	372	0	0	0	105	977	46	60	12	39	3304
% Cars	91.9	95.8	98.7	0	0	0	99.1	94.6	93.9	100	92.3	97.5	95.9
Trucks	3	72	5	0	0	0	1	56	3	0	1	1	142
% Trucks	8.1	4.2	1.3	0	0	0	0.9	5.4	6.1	0	7.7	2.5	4.1

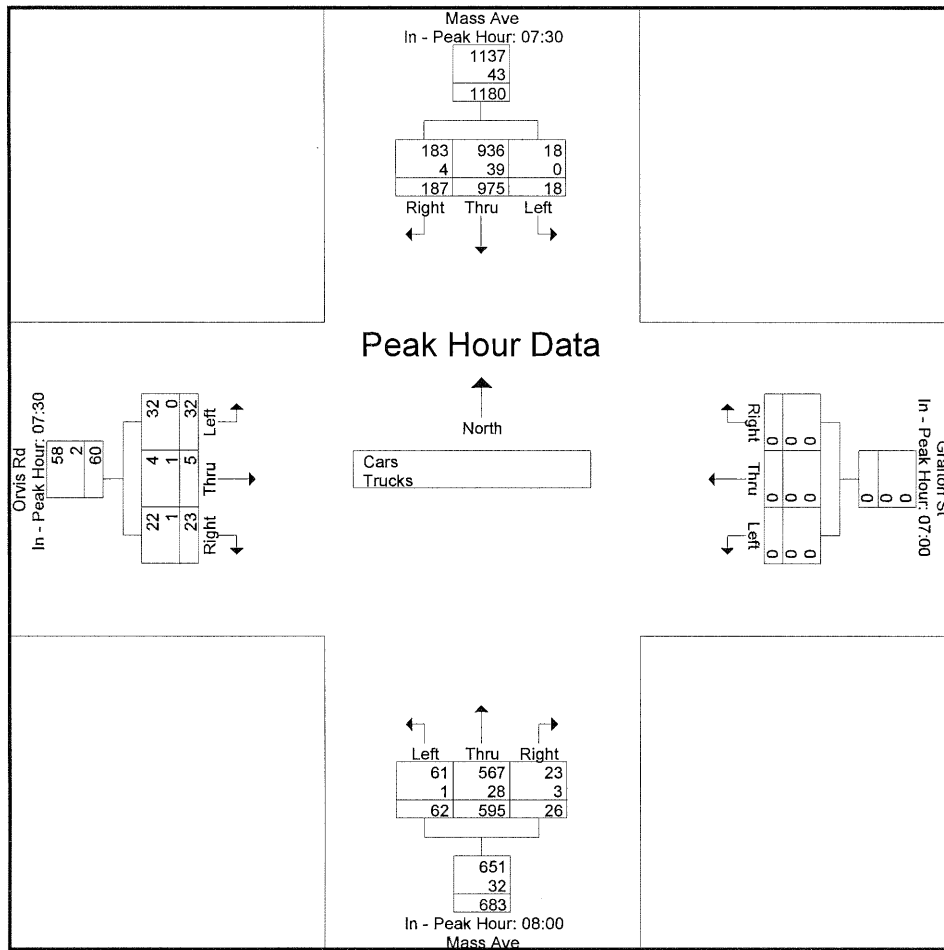
	Mass Ave From North				Grafton St From East				Mass Ave From South				Orvis Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	211	63	274	0	0	0	0	13	157	6	176	7	3	5	15	465
07:45	3	242	51	296	0	0	0	0	12	121	8	141	8	1	6	15	452
08:00	8	286	40	334	0	0	0	0	14	147	10	171	5	0	6	11	516
08:15	7	236	33	276	0	0	0	0	14	166	9	189	12	1	6	19	484
Total Volume	18	975	187	1180	0	0	0	0	53	591	33	677	32	5	23	60	1917
% App. Total	1.5	82.6	15.8		0	0	0		7.8	87.3	4.9		53.3	8.3	38.3		
PHF	.563	.852	.742	.883	.000	.000	.000	.000	.946	.890	.825	.896	.667	.417	.958	.789	.929
Cars	18	936	183	1137	0	0	0	0	52	562	30	644	32	4	22	58	1839
% Cars	100	96.0	97.9	96.4	0	0	0	0	98.1	95.1	90.9	95.1	100	80.0	95.7	96.7	95.9
Trucks	0	39	4	43	0	0	0	0	1	29	3	33	0	1	1	2	78
% Trucks	0	4.0	2.1	3.6	0	0	0	0	1.9	4.9	9.1	4.9	0	20.0	4.3	3.3	4.1



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:00				08:00				07:30			
+0 mins.	0	211	63	274	0	0	0	0	14	147	10	171	7	3	5	15
+15 mins.	3	242	51	296	0	0	0	0	14	166	9	189	8	1	6	15
+30 mins.	8	286	40	334	0	0	0	0	17	151	5	173	5	0	6	11
+45 mins.	7	236	33	276	0	0	0	0	17	131	2	150	12	1	6	19
Total Volume	18	975	187	1180	0	0	0	0	62	595	26	683	32	5	23	60
% App. Total	1.5	82.6	15.8		0	0	0	0	9.1	87.1	3.8		53.3	8.3	38.3	
PHF	.563	.852	.742	.883	.000	.000	.000	.000	.912	.896	.650	.903	.667	.417	.958	.789
Cars	18	936	183	1137	0	0	0	0	61	567	23	651	32	4	22	58
% Cars	100	96	97.9	96.4	0	0	0	0	98.4	95.3	88.5	95.3	100	80	95.7	96.7
Trucks	0	39	4	43	0	0	0	0	1	28	3	32	0	1	1	2
% Trucks	0	4	2.1	3.6	0	0	0	0	1.6	4.7	11.5	4.7	0	20	4.3	3.3



N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

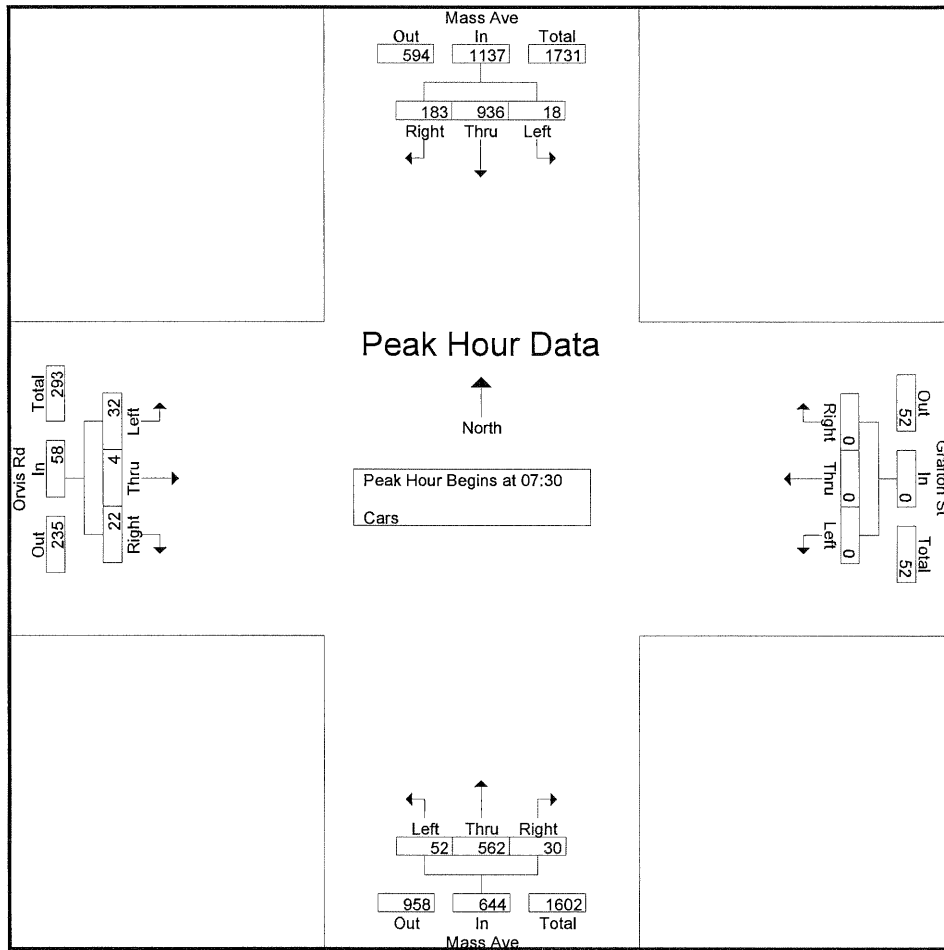
Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00	2	128	43	0	0	0	5	68	4	4	1	6	261
07:15	4	188	49	0	0	0	14	79	5	6	6	3	354
07:30	0	203	63	0	0	0	13	147	6	7	2	5	446
07:45	3	235	51	0	0	0	12	116	8	8	1	6	440
Total	9	754	206	0	0	0	44	410	23	25	10	20	1501
08:00	8	275	37	0	0	0	13	141	9	5	0	6	494
08:15	7	223	32	0	0	0	14	158	7	12	1	5	459
08:30	4	199	46	0	0	0	17	146	5	7	1	4	429
08:45	6	208	51	0	0	0	17	122	2	11	0	4	421
Total	25	905	166	0	0	0	61	567	23	35	2	19	1803
Grand Total	34	1659	372	0	0	0	105	977	46	60	12	39	3304
Apprch %	1.6	80.3	18	0	0	0	9.3	86.6	4.1	54.1	10.8	35.1	
Total %	1	50.2	11.3	0	0	0	3.2	29.6	1.4	1.8	0.4	1.2	

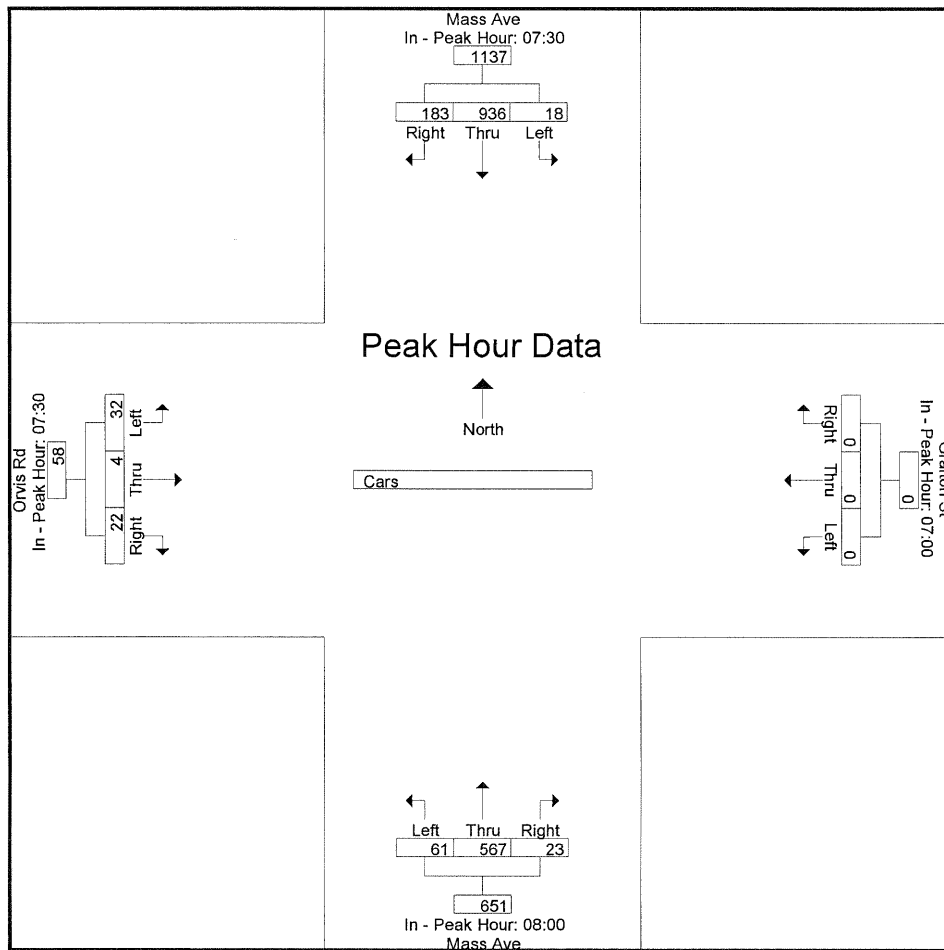
	Mass Ave From North				Grafton St From East				Mass Ave From South				Orvis Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	203	63	266	0	0	0	0	13	147	6	166	7	2	5	14	446
07:45	3	235	51	289	0	0	0	0	12	116	8	136	8	1	6	15	440
08:00	8	275	37	320	0	0	0	0	13	141	9	163	5	0	6	11	494
08:15	7	223	32	262	0	0	0	0	14	158	7	179	12	1	5	18	459
Total Volume	18	936	183	1137	0	0	0	0	52	562	30	644	32	4	22	58	1839
% App. Total	1.6	82.3	16.1		0	0	0		8.1	87.3	4.7		55.2	6.9	37.9		
PHF	.563	.851	.726	.888	.000	.000	.000	.000	.929	.889	.833	.899	.667	.500	.917	.806	.931



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:00				08:00				07:30			
+0 mins.	0	203	63	266	0	0	0	0	13	141	9	163	7	2	5	14
+15 mins.	3	235	51	289	0	0	0	0	14	158	7	179	8	1	6	15
+30 mins.	8	275	37	320	0	0	0	0	17	146	5	168	5	0	6	11
+45 mins.	7	223	32	262	0	0	0	0	17	122	2	141	12	1	5	18
Total Volume	18	936	183	1137	0	0	0	0	61	567	23	651	32	4	22	58
% App. Total	1.6	82.3	16.1		0	0	0		9.4	87.1	3.5		55.2	6.9	37.9	
PHF	.563	.851	.726	.888	.000	.000	.000	.000	.897	.897	.639	.909	.667	.500	.917	.806



N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

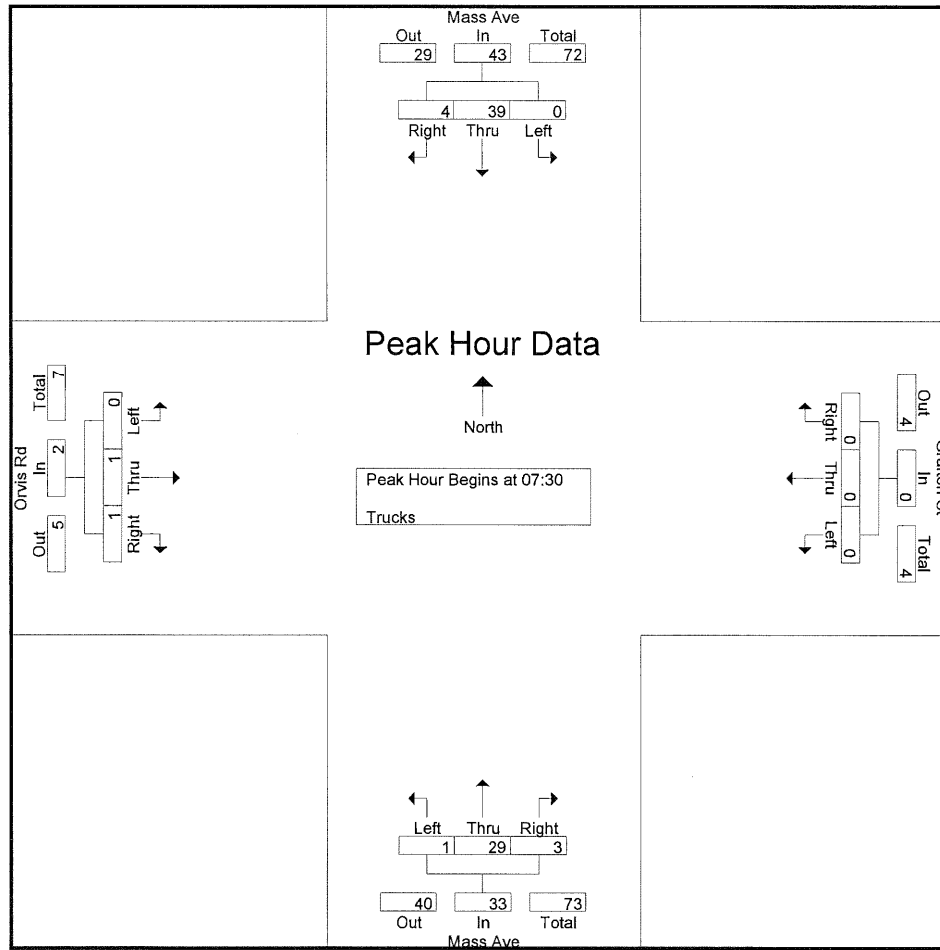
Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Trucks

Start Time	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	2	6	0	0	0	0	0	6	0	0	0	0	14
07:15	1	11	0	0	0	0	0	7	0	0	0	0	19
07:30	0	8	0	0	0	0	0	10	0	0	1	0	19
07:45	0	7	0	0	0	0	0	5	0	0	0	0	12
Total	3	32	0	0	0	0	0	28	0	0	1	0	64
08:00	0	11	3	0	0	0	1	6	1	0	0	0	22
08:15	0	13	1	0	0	0	0	8	2	0	0	1	25
08:30	0	5	1	0	0	0	0	5	0	0	0	0	11
08:45	0	11	0	0	0	0	0	9	0	0	0	0	20
Total	0	40	5	0	0	0	1	28	3	0	0	1	78
Grand Total	3	72	5	0	0	0	1	56	3	0	1	1	142
Apprch %	3.8	90	6.2	0	0	0	1.7	93.3	5	0	50	50	
Total %	2.1	50.7	3.5	0	0	0	0.7	39.4	2.1	0	0.7	0.7	

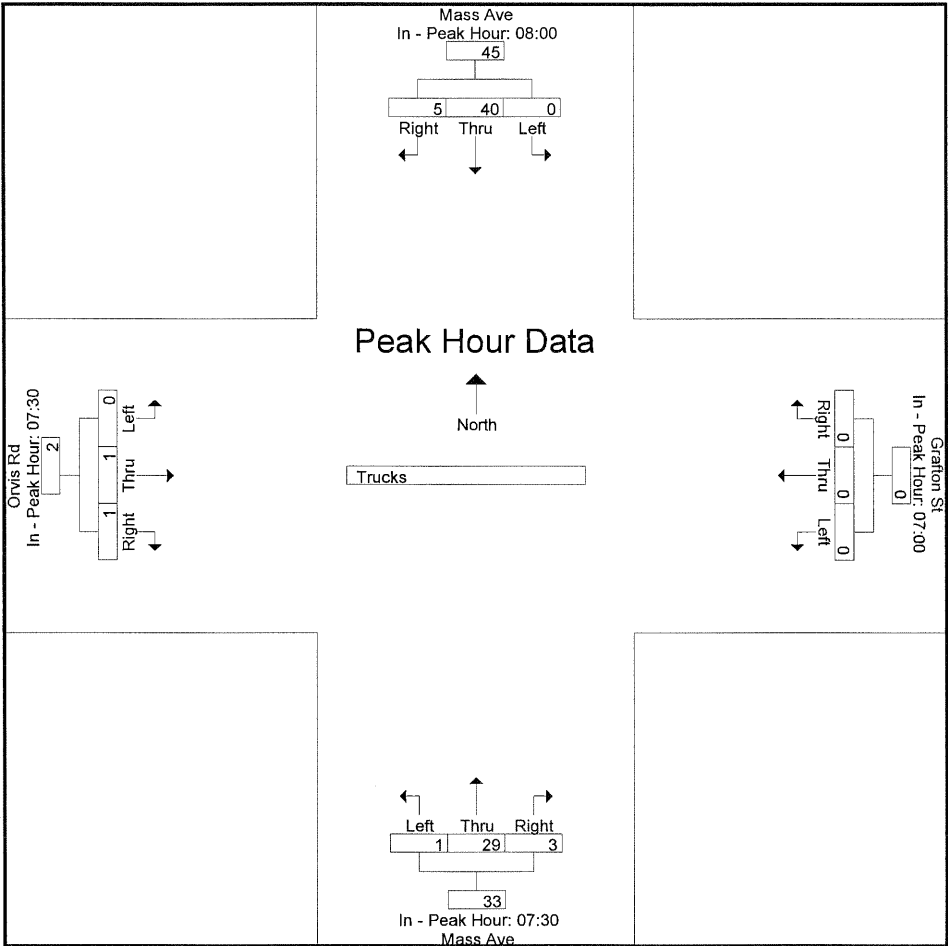
	Mass Ave From North				Grafton St From East				Mass Ave From South				Orvis Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	8	0	8	0	0	0	0	0	10	0	10	0	1	0	1	19
07:45	0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0	12
08:00	0	11	3	14	0	0	0	0	1	6	1	8	0	0	0	0	22
08:15	0	13	1	14	0	0	0	0	0	8	2	10	0	0	1	1	25
Total Volume	0	39	4	43	0	0	0	0	1	29	3	33	0	1	1	2	78
% App. Total	0	90.7	9.3		0	0	0		3	87.9	9.1		0	50	50		
PHF	.000	.750	.333	.768	.000	.000	.000	.000	.250	.725	.375	.825	.000	.250	.250	.500	.780



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00				07:00				07:30				07:30			
+0 mins.	0	11	3	14	0	0	0	0	0	10	0	10	0	1	0	1
+15 mins.	0	13	1	14	0	0	0	0	0	5	0	5	0	0	0	0
+30 mins.	0	5	1	6	0	0	0	0	1	6	1	8	0	0	0	0
+45 mins.	0	11	0	11	0	0	0	0	0	8	2	10	0	0	1	1
Total Volume	0	40	5	45	0	0	0	0	1	29	3	33	0	1	1	2
% App. Total	0	88.9	11.1		0	0	0		3	87.9	9.1		0	50	50	
PHF	.000	.769	.417	.804	.000	.000	.000	.000	.250	.725	.375	.825	.000	.250	.250	.500



N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

	Mass Ave From North		Grafton St From East		Mass Ave From South		Orvis Rd From West		
Start Time	WB	EB	NB	SB	EB	WB	NB	SB	Int. Total
07:00	0	0	3	0	0	1	3	1	8
07:15	0	0	4	3	2	0	2	3	14
07:30	0	0	6	7	2	3	3	1	22
07:45	0	0	2	5	0	1	1	4	13
Total	0	0	15	15	4	5	9	9	57
08:00	1	1	0	0	0	1	0	3	6
08:15	0	0	0	3	1	2	1	4	11
08:30	0	0	4	4	0	1	1	5	15
08:45	1	1	2	3	2	0	2	4	15
Total	2	2	6	10	3	4	4	16	47
Grand Total	2	2	21	25	7	9	13	25	104
Apprch %	50	50	45.7	54.3	43.8	56.2	34.2	65.8	
Total %	1.9	1.9	20.2	24	6.7	8.7	12.5	24	

	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	NB	SB	App. Total	Int. Total
07:00	0	0	0	3	0	3	0	1	1	3	1	4	8
07:15	0	0	0	4	3	7	2	0	2	2	3	5	14
07:30	0	0	0	6	7	13	2	3	5	3	1	4	22
07:45	0	0	0	2	5	7	0	1	1	1	4	5	13
Total Volume	0	0	0	15	15	30	4	5	9	9	9	18	57
% App. Total	0	0		50	50		44.4	55.6		50	50		
PHF	.000	.000	.000	.625	.536	.577	.500	.417	.450	.750	.563	.900	.648

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00			07:00			07:30			08:00		
+0 mins.	1	1	2	3	0	3	2	3	5	0	3	3
+15 mins.	0	0	0	4	3	7	0	1	1	1	4	5
+30 mins.	0	0	0	6	7	13	0	1	1	1	5	6
+45 mins.	1	1	2	2	5	7	1	2	3	2	4	6
Total Volume	2	2	4	15	15	30	3	7	10	4	16	20
% App. Total	50	50		50	50		30	70		20	80	
PHF	.500	.500	.500	.625	.536	.577	.375	.583	.500	.500	.800	.833

N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

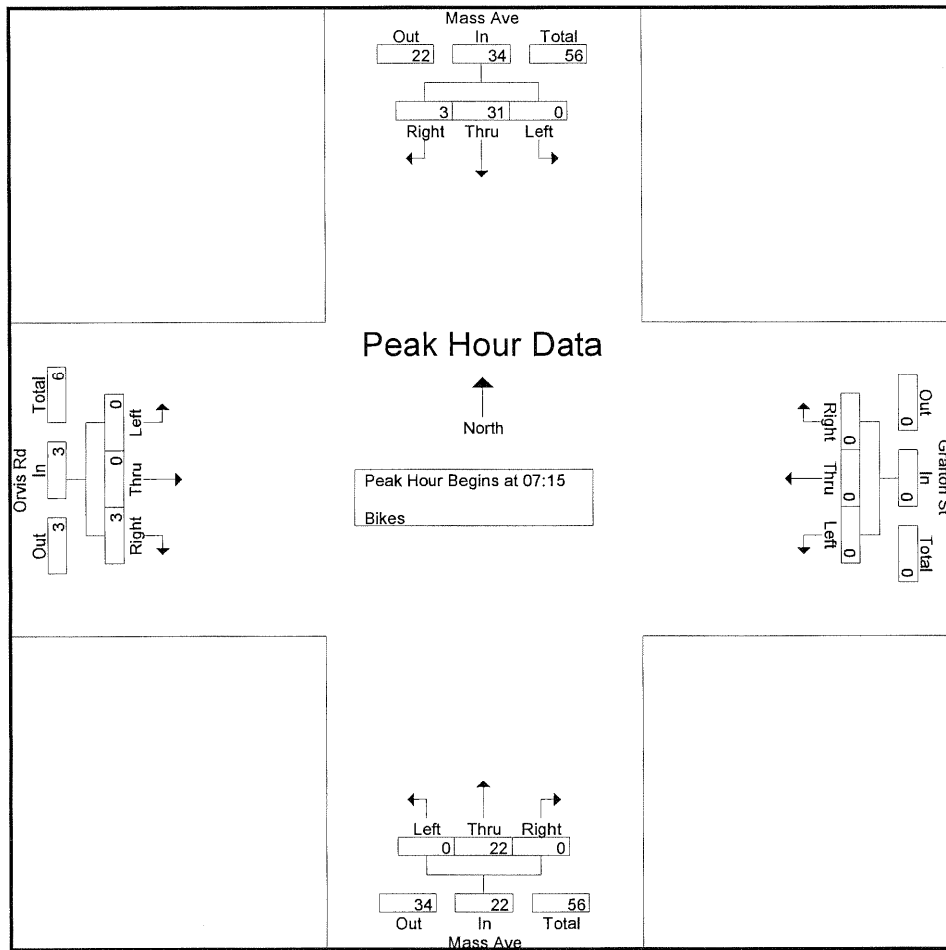
Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	3	0	0	0	0	0	1	0	0	0	0	4
07:15	0	6	0	0	0	0	0	9	0	0	0	0	15
07:30	0	5	1	0	0	0	0	3	0	0	0	3	12
07:45	0	13	0	0	0	0	0	2	0	0	0	0	15
Total	0	27	1	0	0	0	0	15	0	0	0	3	46
08:00	0	7	2	0	0	0	0	8	0	0	0	0	17
08:15	0	12	0	0	0	0	0	3	0	0	0	0	15
08:30	0	7	0	0	0	0	0	2	0	0	0	0	9
08:45	0	2	1	0	0	0	0	4	0	0	0	0	7
Total	0	28	3	0	0	0	0	17	0	0	0	0	48
Grand Total	0	55	4	0	0	0	0	32	0	0	0	3	94
Apprch %	0	93.2	6.8	0	0	0	0	100	0	0	0	100	
Total %	0	58.5	4.3	0	0	0	0	34	0	0	0	3.2	

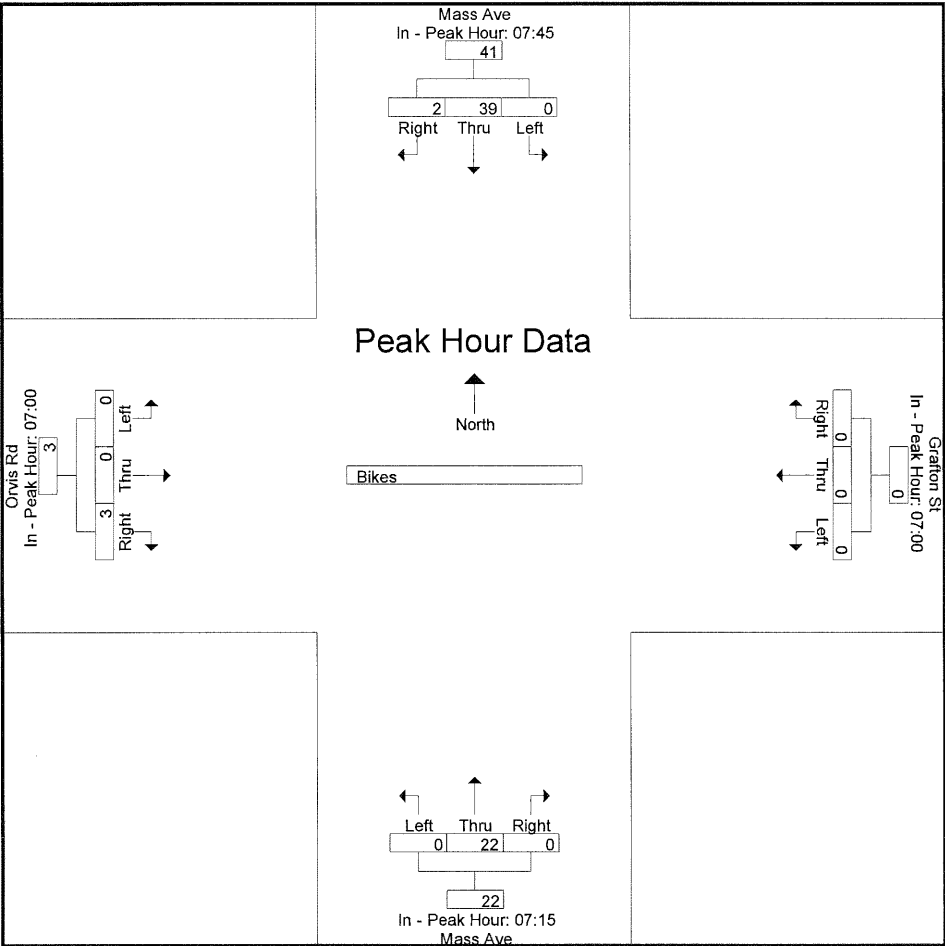
	Mass Ave From North				Grafton St From East				Mass Ave From South				Orvis Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	6	0	6	0	0	0	0	0	9	0	9	0	0	0	0	15
07:30	0	5	1	6	0	0	0	0	0	3	0	3	0	0	3	3	12
07:45	0	13	0	13	0	0	0	0	0	2	0	2	0	0	0	0	15
08:00	0	7	2	9	0	0	0	0	0	8	0	8	0	0	0	0	17
Total Volume	0	31	3	34	0	0	0	0	0	22	0	22	0	0	3	3	59
% App. Total	0	91.2	8.8		0	0	0		0	100	0		0	0	100		
PHF	.000	.596	.375	.654	.000	.000	.000	.000	.000	.611	.000	.611	.000	.000	.250	.250	.868



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45				07:00				07:15				07:00			
+0 mins.	0	13	0	13	0	0	0	0	0	9	0	9	0	0	0	0
+15 mins.	0	7	2	9	0	0	0	0	0	3	0	3	0	0	0	0
+30 mins.	0	12	0	12	0	0	0	0	0	2	0	2	0	0	3	3
+45 mins.	0	7	0	7	0	0	0	0	0	8	0	8	0	0	0	0
Total Volume	0	39	2	41	0	0	0	0	0	22	0	22	0	0	3	3
% App. Total	0	95.1	4.9		0	0	0		0	100	0		0	0	100	
PHF	.000	.750	.250	.788	.000	.000	.000	.000	.000	.611	.000	.611	.000	.000	.250	.250



N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

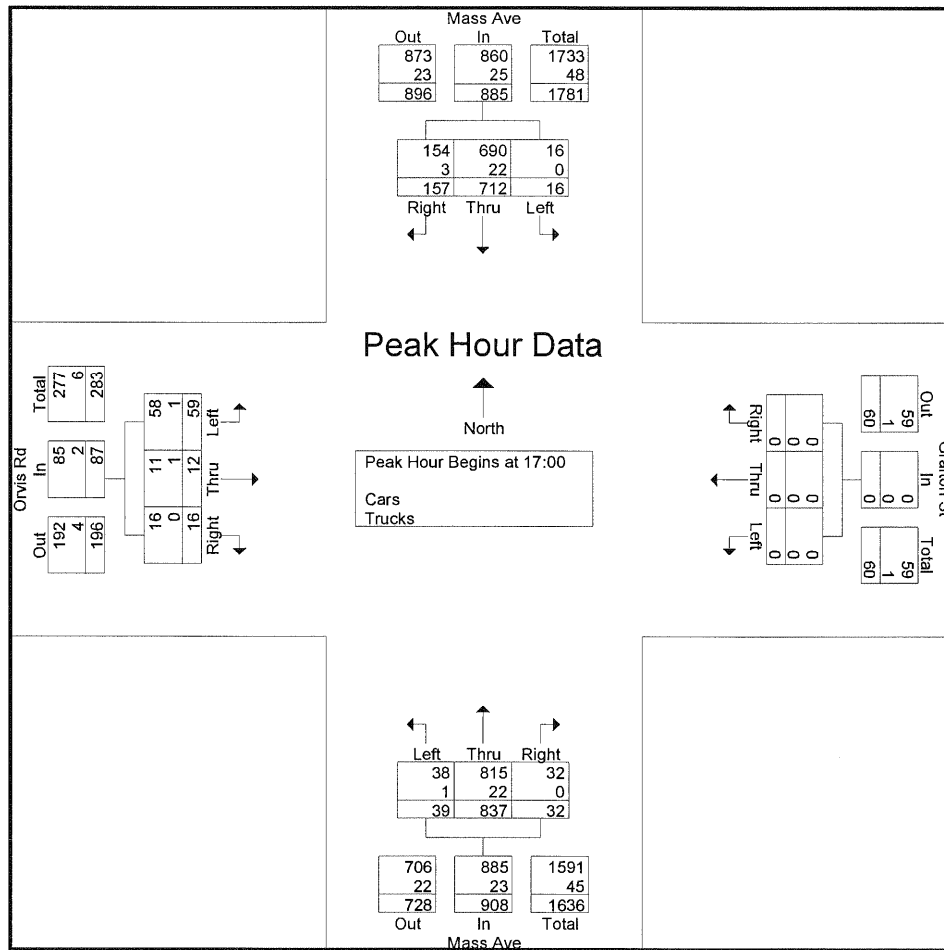
Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars - Trucks

	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	5	107	31	0	0	0	4	151	4	11	2	4	319
16:15	5	153	32	0	0	0	7	177	3	14	4	0	395
16:30	10	158	33	0	0	0	9	175	14	17	7	6	429
16:45	4	155	26	0	0	0	5	196	4	20	4	4	418
Total	24	573	122	0	0	0	25	699	25	62	17	14	1561
17:00	5	164	39	0	0	0	12	212	9	14	5	4	464
17:15	1	172	41	0	0	0	14	212	4	13	3	4	464
17:30	6	169	39	0	0	0	10	218	11	15	4	3	475
17:45	4	207	38	0	0	0	3	195	8	17	0	5	477
Total	16	712	157	0	0	0	39	837	32	59	12	16	1880
Grand Total	40	1285	279	0	0	0	64	1536	57	121	29	30	3441
Apprch %	2.5	80.1	17.4	0	0	0	3.9	92.7	3.4	67.2	16.1	16.7	
Total %	1.2	37.3	8.1	0	0	0	1.9	44.6	1.7	3.5	0.8	0.9	
Cars	40	1245	275	0	0	0	63	1491	57	120	28	30	3349
% Cars	100	96.9	98.6	0	0	0	98.4	97.1	100	99.2	96.6	100	97.3
Trucks	0	40	4	0	0	0	1	45	0	1	1	0	92
% Trucks	0	3.1	1.4	0	0	0	1.6	2.9	0	0.8	3.4	0	2.7

	Mass Ave From North				Grafton St From East				Mass Ave From South				Orvis Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	5	164	39	208	0	0	0	0	12	212	9	233	14	5	4	23	464
17:15	1	172	41	214	0	0	0	0	14	212	4	230	13	3	4	20	464
17:30	6	169	39	214	0	0	0	0	10	218	11	239	15	4	3	22	475
17:45	4	207	38	249	0	0	0	0	3	195	8	206	17	0	5	22	477
Total Volume	16	712	157	885	0	0	0	0	39	837	32	908	59	12	16	87	1880
% App. Total	1.8	80.5	17.7		0	0	0		4.3	92.2	3.5		67.8	13.8	18.4		
PHF	.667	.860	.957	.889	.000	.000	.000	.000	.696	.960	.727	.950	.868	.600	.800	.946	.985
Cars	16	690	154	860	0	0	0	0	38	815	32	885	58	11	16	85	1830
% Cars	100	96.9	98.1	97.2	0	0	0	0	97.4	97.4	100	97.5	98.3	91.7	100	97.7	97.3
Trucks	0	22	3	25	0	0	0	0	1	22	0	23	1	1	0	2	50
% Trucks	0	3.1	1.9	2.8	0	0	0	0	2.6	2.6	0	2.5	1.7	8.3	0	2.3	2.7



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				16:00				17:00				16:30			
+0 mins.	5	164	39	208	0	0	0	0	12	212	9	233	17	7	6	30
+15 mins.	1	172	41	214	0	0	0	0	14	212	4	230	20	4	4	28
+30 mins.	6	169	39	214	0	0	0	0	10	218	11	239	14	5	4	23
+45 mins.	4	207	38	249	0	0	0	0	3	195	8	206	13	3	4	20
Total Volume	16	712	157	885	0	0	0	0	39	837	32	908	64	19	18	101
% App. Total	1.8	80.5	17.7		0	0	0		4.3	92.2	3.5		63.4	18.8	17.8	
PHF	.667	.860	.957	.889	.000	.000	.000	.000	.696	.960	.727	.950	.800	.679	.750	.842
Cars	16	690	154	860	0	0	0	0	38	815	32	885	63	18	18	99
% Cars	100	96.9	98.1	97.2	0	0	0	0	97.4	97.4	100	97.5	98.4	94.7	100	98
Trucks	0	22	3	25	0	0	0	0	1	22	0	23	1	1	0	2
% Trucks	0	3.1	1.9	2.8	0	0	0	0	2.6	2.6	0	2.5	1.6	5.3	0	2

File Name : 013000A3
Site Code : 01300003
Start Date : 10/21/2008
Page No : 3

N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

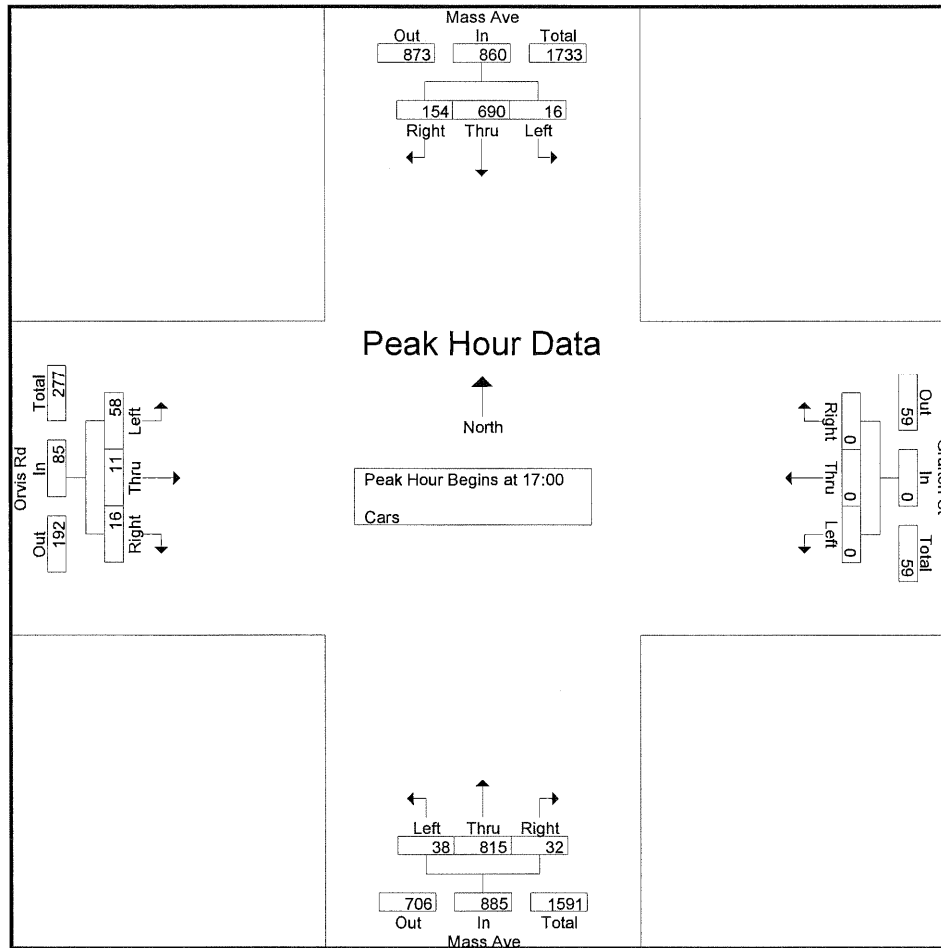
Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	5	103	30	0	0	0	4	143	4	11	2	4	306
16:15	5	146	32	0	0	0	7	174	3	14	4	0	385
16:30	10	154	33	0	0	0	9	170	14	17	7	6	420
16:45	4	152	26	0	0	0	5	189	4	20	4	4	408
Total	24	555	121	0	0	0	25	676	25	62	17	14	1519
17:00	5	158	38	0	0	0	12	208	9	13	4	4	451
17:15	1	167	41	0	0	0	13	206	4	13	3	4	452
17:30	6	163	37	0	0	0	10	213	11	15	4	3	462
17:45	4	202	38	0	0	0	3	188	8	17	0	5	465
Total	16	690	154	0	0	0	38	815	32	58	11	16	1830
Grand Total	40	1245	275	0	0	0	63	1491	57	120	28	30	3349
Apprch %	2.6	79.8	17.6	0	0	0	3.9	92.6	3.5	67.4	15.7	16.9	
Total %	1.2	37.2	8.2	0	0	0	1.9	44.5	1.7	3.6	0.8	0.9	

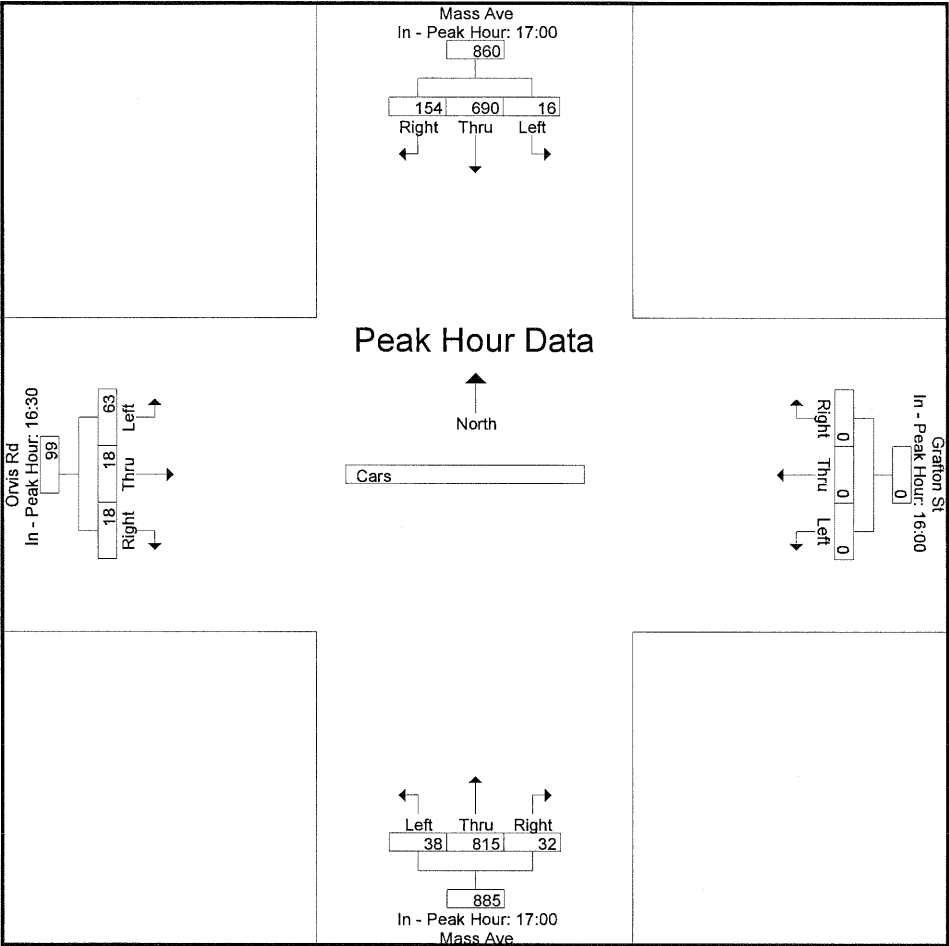
	Mass Ave From North				Grafton St From East				Mass Ave From South				Orvis Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	5	158	38	201	0	0	0	0	12	208	9	229	13	4	4	21	451
17:15	1	167	41	209	0	0	0	0	13	206	4	223	13	3	4	20	452
17:30	6	163	37	206	0	0	0	0	10	213	11	234	15	4	3	22	462
17:45	4	202	38	244	0	0	0	0	3	188	8	199	17	0	5	22	465
Total Volume	16	690	154	860	0	0	0	0	38	815	32	885	58	11	16	85	1830
% App. Total	1.9	80.2	17.9		0	0	0		4.3	92.1	3.6		68.2	12.9	18.8		
PHF	.667	.854	.939	.881	.000	.000	.000	.000	.731	.957	.727	.946	.853	.688	.800	.966	.984



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				16:00				17:00				16:30			
+0 mins.	5	158	38	201	0	0	0	0	12	208	9	229	17	7	6	30
+15 mins.	1	167	41	209	0	0	0	0	13	206	4	223	20	4	4	28
+30 mins.	6	163	37	206	0	0	0	0	10	213	11	234	13	4	4	21
+45 mins.	4	202	38	244	0	0	0	0	3	188	8	199	13	3	4	20
Total Volume	16	690	154	860	0	0	0	0	38	815	32	885	63	18	18	99
% App. Total	1.9	80.2	17.9		0	0	0		4.3	92.1	3.6		63.6	18.2	18.2	
PHF	.667	.854	.939	.881	.000	.000	.000	.000	.731	.957	.727	.946	.788	.643	.750	.825



N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

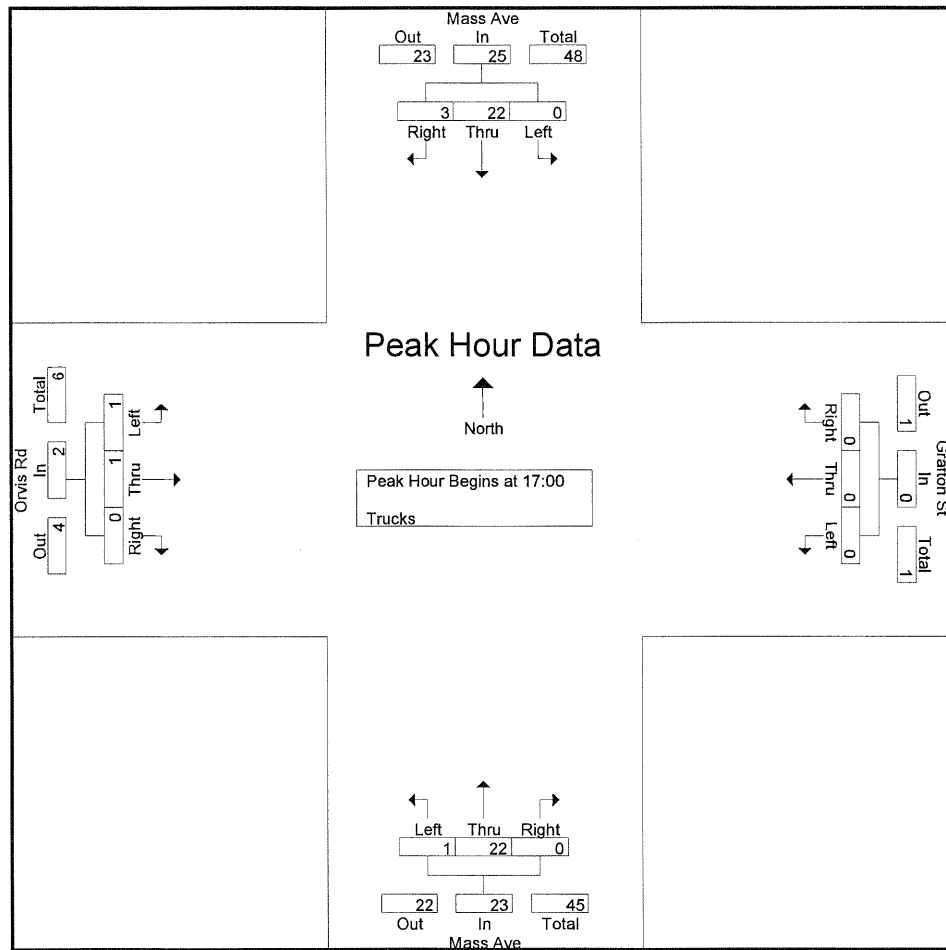
Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Trucks

Start Time	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	4	1	0	0	0	0	8	0	0	0	0	13
16:15	0	7	0	0	0	0	0	3	0	0	0	0	10
16:30	0	4	0	0	0	0	0	5	0	0	0	0	9
16:45	0	3	0	0	0	0	0	7	0	0	0	0	10
Total	0	18	1	0	0	0	0	23	0	0	0	0	42
17:00	0	6	1	0	0	0	0	4	0	1	1	0	13
17:15	0	5	0	0	0	0	1	6	0	0	0	0	12
17:30	0	6	2	0	0	0	0	5	0	0	0	0	13
17:45	0	5	0	0	0	0	0	7	0	0	0	0	12
Total	0	22	3	0	0	0	1	22	0	1	1	0	50
Grand Total	0	40	4	0	0	0	1	45	0	1	1	0	92
Apprch %	0	90.9	9.1	0	0	0	2.2	97.8	0	50	50	0	
Total %	0	43.5	4.3	0	0	0	1.1	48.9	0	1.1	1.1	0	

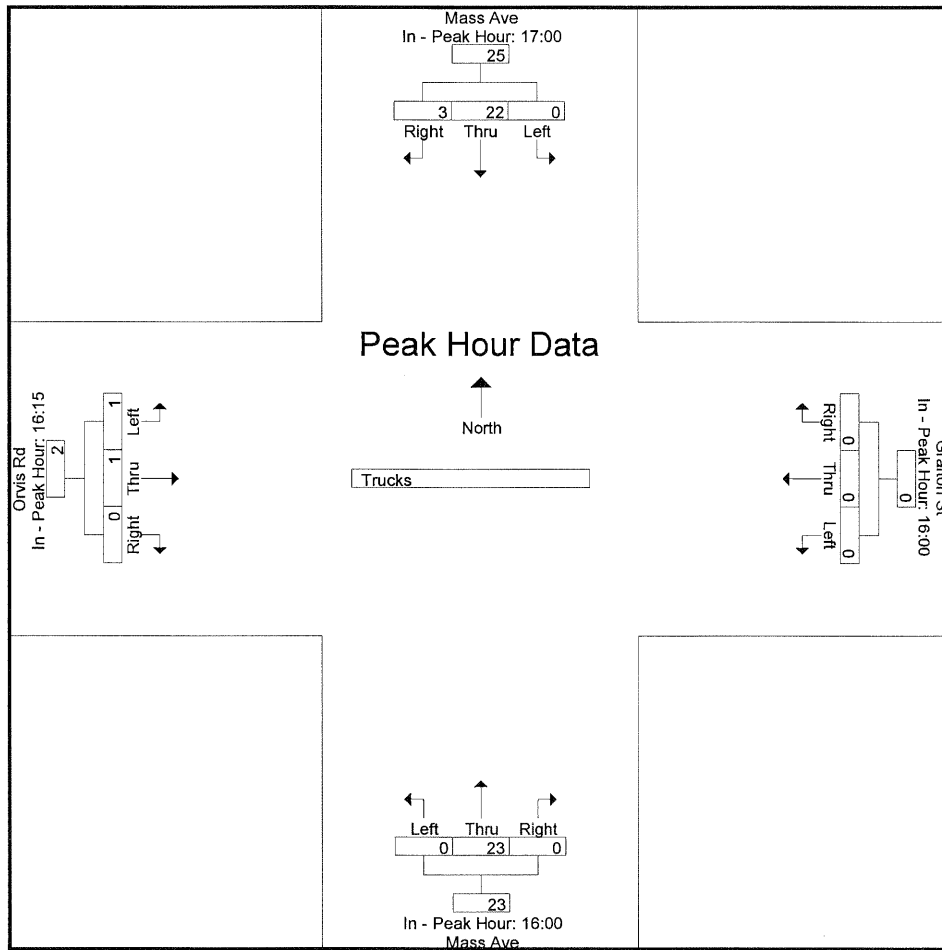
	Mass Ave From North				Grafton St From East				Mass Ave From South				Orvis Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	6	1	7	0	0	0	0	0	4	0	4	1	1	0	2	13
17:15	0	5	0	5	0	0	0	0	1	6	0	7	0	0	0	0	12
17:30	0	6	2	8	0	0	0	0	0	5	0	5	0	0	0	0	13
17:45	0	5	0	5	0	0	0	0	0	7	0	7	0	0	0	0	12
Total Volume	0	22	3	25	0	0	0	0	1	22	0	23	1	1	0	2	50
% App. Total	0	88	12		0	0	0		4.3	95.7	0		50	50	0		
PHF	.000	.917	.375	.781	.000	.000	.000	.000	.250	.786	.000	.821	.250	.250	.000	.250	.962



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				16:00				16:00				16:15			
+0 mins.	0	6	1	7	0	0	0	0	0	8	0	8	0	0	0	0
+15 mins.	0	5	0	5	0	0	0	0	0	3	0	3	0	0	0	0
+30 mins.	0	6	2	8	0	0	0	0	0	5	0	5	0	0	0	0
+45 mins.	0	5	0	5	0	0	0	0	0	7	0	7	1	1	0	2
Total Volume	0	22	3	25	0	0	0	0	0	23	0	23	1	1	0	2
% App. Total	0	88	12		0	0	0		0	100	0		50	50	0	
PHF	.000	.917	.375	.781	.000	.000	.000	.000	.000	.719	.000	.719	.250	.250	.000	.250



N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

Start Time	Mass Ave From North		Grafton St From East		Mass Ave From South		Orvis Rd From West		Int. Total
	WB	EB	NB	SB	EB	WB	NB	SB	
16:00	0	0	3	5	0	0	0	2	10
16:15	0	0	7	1	0	0	1	3	12
16:30	0	0	6	2	0	1	0	3	12
16:45	0	1	6	4	0	1	5	2	19
Total	0	1	22	12	0	2	6	10	53
17:00	0	0	1	6	0	0	2	1	10
17:15	0	0	1	3	0	0	4	5	13
17:30	0	0	2	5	0	0	4	1	12
17:45	0	0	3	4	0	0	1	1	9
Total	0	0	7	18	0	0	11	8	44
Grand Total	0	1	29	30	0	2	17	18	97
Apprch %	0	100	49.2	50.8	0	100	48.6	51.4	
Total %	0	1	29.9	30.9	0	2.1	17.5	18.6	

Start Time	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			Int. Total
	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	NB	SB	App. Total	
16:30	0	0	0	6	2	8	0	1	1	0	3	3	12
16:45	0	1	1	6	4	10	0	1	1	5	2	7	19
17:00	0	0	0	1	6	7	0	0	0	2	1	3	10
17:15	0	0	0	1	3	4	0	0	0	4	5	9	13
Total Volume	0	1	1	14	15	29	0	2	2	11	11	22	54
% App. Total	0	100		48.3	51.7		0	100		50	50		
PHF	.000	.250	.250	.583	.625	.725	.000	.500	.500	.550	.550	.611	.711

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at:

	16:00			16:00			16:00			16:45		
+0 mins.	0	0	0	3	5	8	0	0	0	5	2	7
+15 mins.	0	0	0	7	1	8	0	0	0	2	1	3
+30 mins.	0	0	0	6	2	8	0	1	1	4	5	9
+45 mins.	0	1	1	6	4	10	0	1	1	4	1	5
Total Volume	0	1	1	22	12	34	0	2	2	15	9	24
% App. Total	0	100		64.7	35.3		0	100		62.5	37.5	
PHF	.000	.250	.250	.786	.600	.850	.000	.500	.500	.750	.450	.667

OLD DATA SHEET

N/S Street : Massachusetts Avenue
 E/W Street: Grafton St / Orvis Rd
 City/State : Arlington, MA
 Weather : Clear

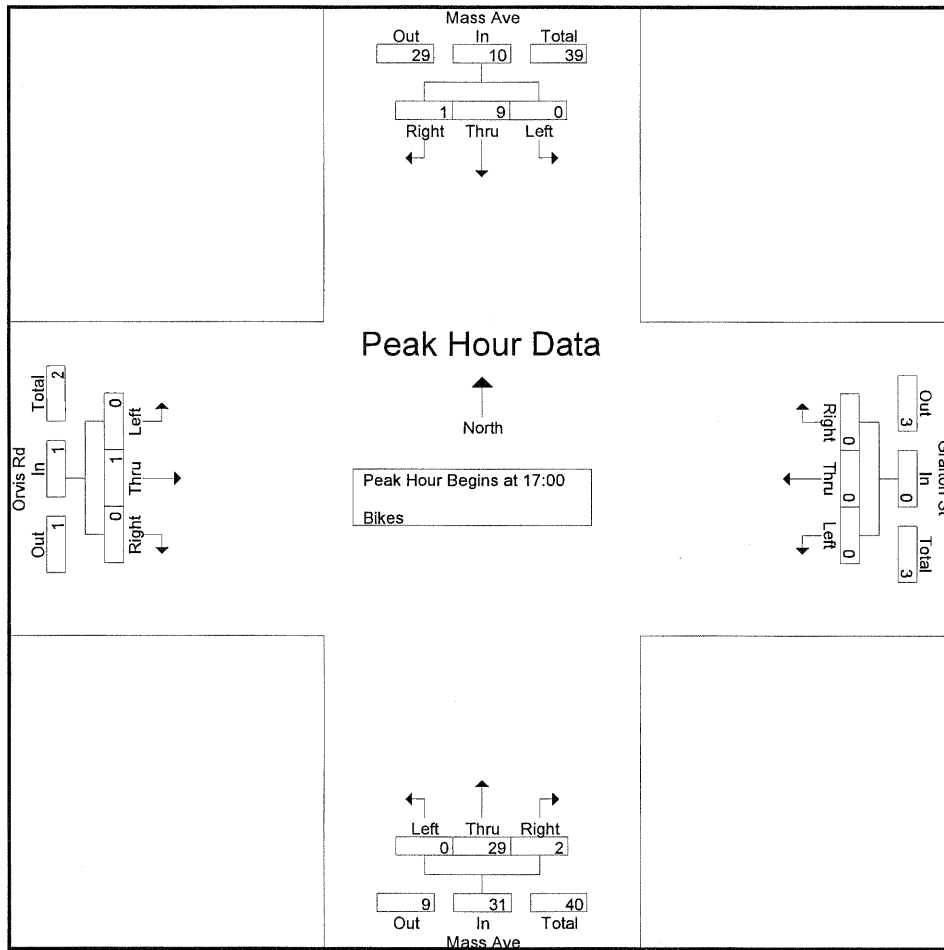
Accurate Counts
 978-664-2565

File Name : 013000A3
 Site Code : 01300003
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

	Mass Ave From North			Grafton St From East			Mass Ave From South			Orvis Rd From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	0	2	0	0	0	0	0	2	0	0	0	0	4
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	4	1	0	0	0	5
16:45	0	0	0	0	0	0	0	7	0	0	0	0	7
Total	0	2	0	0	0	0	0	13	1	0	0	0	16
17:00	0	0	0	0	0	0	0	4	1	0	0	0	5
17:15	0	5	0	0	0	0	0	5	1	0	0	0	11
17:30	0	3	1	0	0	0	0	7	0	0	0	0	11
17:45	0	1	0	0	0	0	0	13	0	0	1	0	15
Total	0	9	1	0	0	0	0	29	2	0	1	0	42
Grand Total	0	11	1	0	0	0	0	42	3	0	1	0	58
Apprch %	0	91.7	8.3	0	0	0	0	93.3	6.7	0	100	0	
Total %	0	19	1.7	0	0	0	0	72.4	5.2	0	1.7	0	

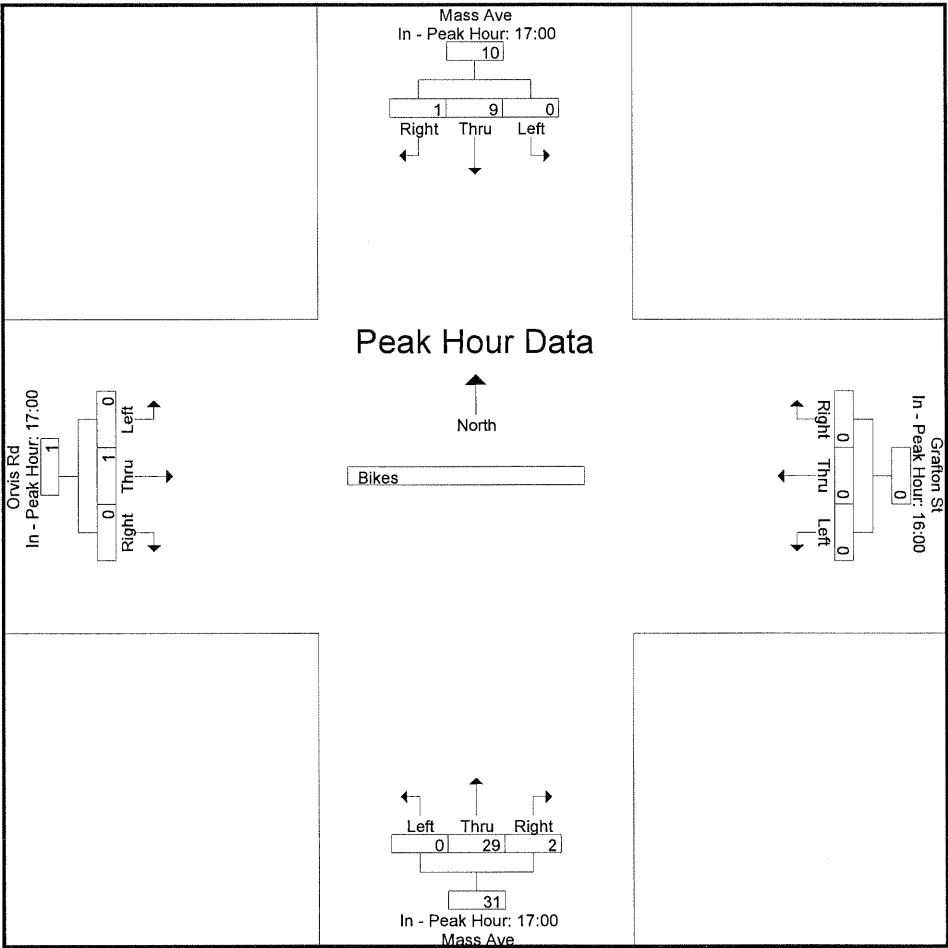
	Mass Ave From North				Grafton St From East				Mass Ave From South				Orvis Rd From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	5
17:15	0	5	0	5	0	0	0	0	0	5	1	6	0	0	0	0	11
17:30	0	3	1	4	0	0	0	0	0	7	0	7	0	0	0	0	11
17:45	0	1	0	1	0	0	0	0	0	13	0	13	0	1	0	1	15
Total Volume	0	9	1	10	0	0	0	0	0	29	2	31	0	1	0	1	42
% App. Total	0	90	10		0	0	0		0	93.5	6.5		0	100	0		
PHF	.000	.450	.250	.500	.000	.000	.000	.000	.000	.558	.500	.596	.000	.250	.000	.250	.700



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				16:00				17:00				17:00			
+0 mins.	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0
+15 mins.	0	5	0	5	0	0	0	0	0	5	1	6	0	0	0	0
+30 mins.	0	3	1	4	0	0	0	0	0	7	0	7	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	13	0	13	0	1	0	1
Total Volume	0	9	1	10	0	0	0	0	0	29	2	31	0	1	0	1
% App. Total	0	90	10		0	0	0		0	93.5	6.5		0	100	0	
PHF	.000	.450	.250	.500	.000	.000	.000	.000	.000	.558	.500	.596	.000	.250	.000	.250



N/S Street : Massachusetts Avenue
E/W Street: Winter St / Lake St
City/State : Arlington, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 013000A4
Site Code : 01300004
Start Date : 10/21/2008
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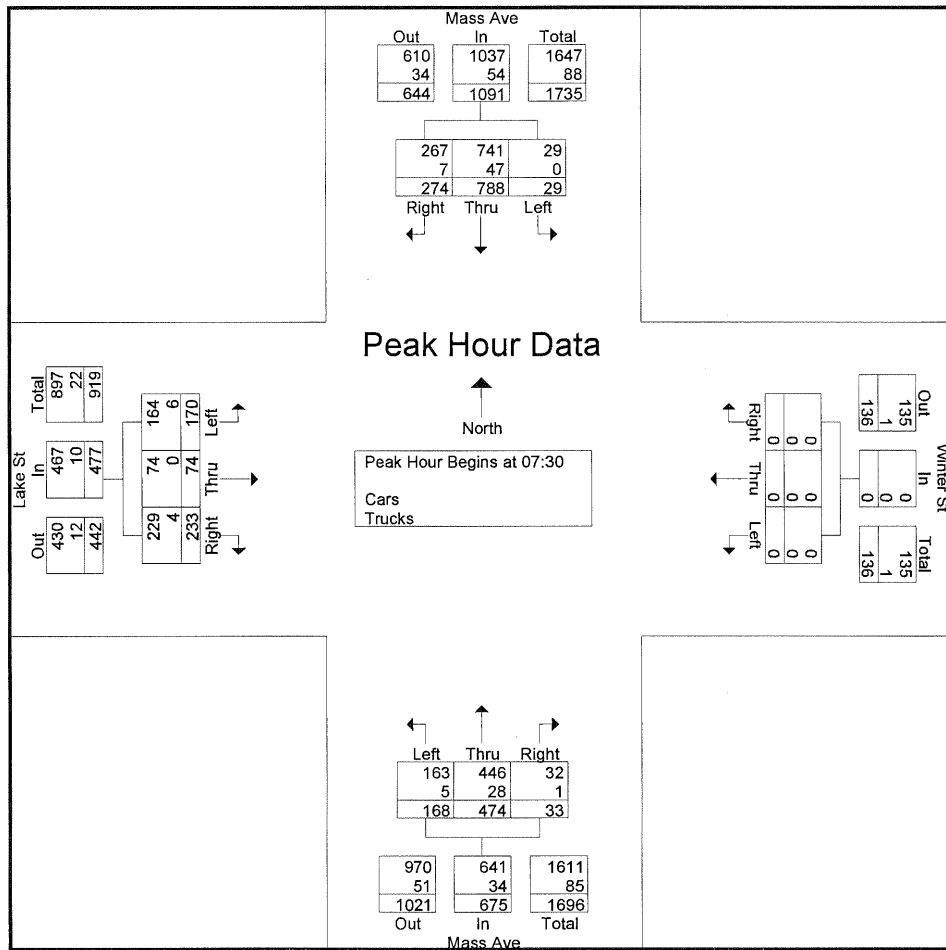
Groups Printed- Cars - Trucks

	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00	5	118	43	0	0	0	38	51	5	34	10	51	355
07:15	3	167	55	0	0	0	38	76	4	24	10	70	447
07:30	5	175	83	0	0	0	44	130	4	41	19	62	563
07:45	10	189	83	0	0	0	45	104	6	36	15	82	570
Total	23	649	264	0	0	0	165	361	19	135	54	265	1935
08:00	5	191	67	0	0	0	43	112	10	36	26	46	536
08:15	9	233	41	0	0	0	36	128	13	57	14	43	574
08:30	3	174	74	0	0	0	44	107	1	44	15	56	518
08:45	4	187	65	0	0	0	41	88	1	35	15	63	499
Total	21	785	247	0	0	0	164	435	25	172	70	208	2127
Grand Total	44	1434	511	0	0	0	329	796	44	307	124	473	4062
Apprch %	2.2	72.1	25.7	0	0	0	28.1	68.1	3.8	34	13.7	52.3	
Total %	1.1	35.3	12.6	0	0	0	8.1	19.6	1.1	7.6	3.1	11.6	
Cars	44	1357	501	0	0	0	316	741	42	297	121	464	3883
% Cars	100	94.6	98	0	0	0	96	93.1	95.5	96.7	97.6	98.1	95.6
Trucks	0	77	10	0	0	0	13	55	2	10	3	9	179
% Trucks	0	5.4	2	0	0	0	4	6.9	4.5	3.3	2.4	1.9	4.4

	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	5	175	83	263	0	0	0	0	44	130	4	178	41	19	62	122	563
07:45	10	189	83	282	0	0	0	0	45	104	6	155	36	15	82	133	570
08:00	5	191	67	263	0	0	0	0	43	112	10	165	36	26	46	108	536
08:15	9	233	41	283	0	0	0	0	36	128	13	177	57	14	43	114	574
Total Volume	29	788	274	1091	0	0	0	0	168	474	33	675	170	74	233	477	2243
% App. Total	2.7	72.2	25.1		0	0	0		24.9	70.2	4.9		35.6	15.5	48.8		
PHF	.725	.845	.825	.964	.000	.000	.000	.000	.933	.912	.635	.948	.746	.712	.710	.897	.977
Cars	29	741	267	1037	0	0	0	0	163	446	32	641	164	74	229	467	2145
% Cars	100	94.0	97.4	95.1	0	0	0	0	97.0	94.1	97.0	95.0	96.5	100	98.3	97.9	95.6
Trucks	0	47	7	54	0	0	0	0	5	28	1	34	6	0	4	10	98
% Trucks	0	6.0	2.6	4.9	0	0	0	0	3.0	5.9	3.0	5.0	3.5	0	1.7	2.1	4.4

Accurate Counts
978-664-2565

File Name : 013000A4
Site Code : 01300004
Start Date : 10/21/2008
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Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:00				07:30				07:30			
+0 mins.	5	175	83	263	0	0	0	0	44	130	4	178	41	19	62	122
+15 mins.	10	189	83	282	0	0	0	0	45	104	6	155	36	15	82	133
+30 mins.	5	191	67	263	0	0	0	0	43	112	10	165	36	26	46	108
+45 mins.	9	233	41	283	0	0	0	0	36	128	13	177	57	14	43	114
Total Volume	29	788	274	1091	0	0	0	0	168	474	33	675	170	74	233	477
% App. Total	2.7	72.2	25.1		0	0	0		24.9	70.2	4.9		35.6	15.5	48.8	
PHF	.725	.845	.825	.964	.000	.000	.000	.000	.933	.912	.635	.948	.746	.712	.710	.897
Cars	29	741	267	1037	0	0	0	0	163	446	32	641	164	74	229	467
% Cars	100	94	97.4	95.1	0	0	0	0	97	94.1	97	95	96.5	100	98.3	97.9
Trucks	0	47	7	54	0	0	0	0	5	28	1	34	6	0	4	10
% Trucks	0	6	2.6	4.9	0	0	0	0	3	5.9	3	5	3.5	0	1.7	2.1

N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

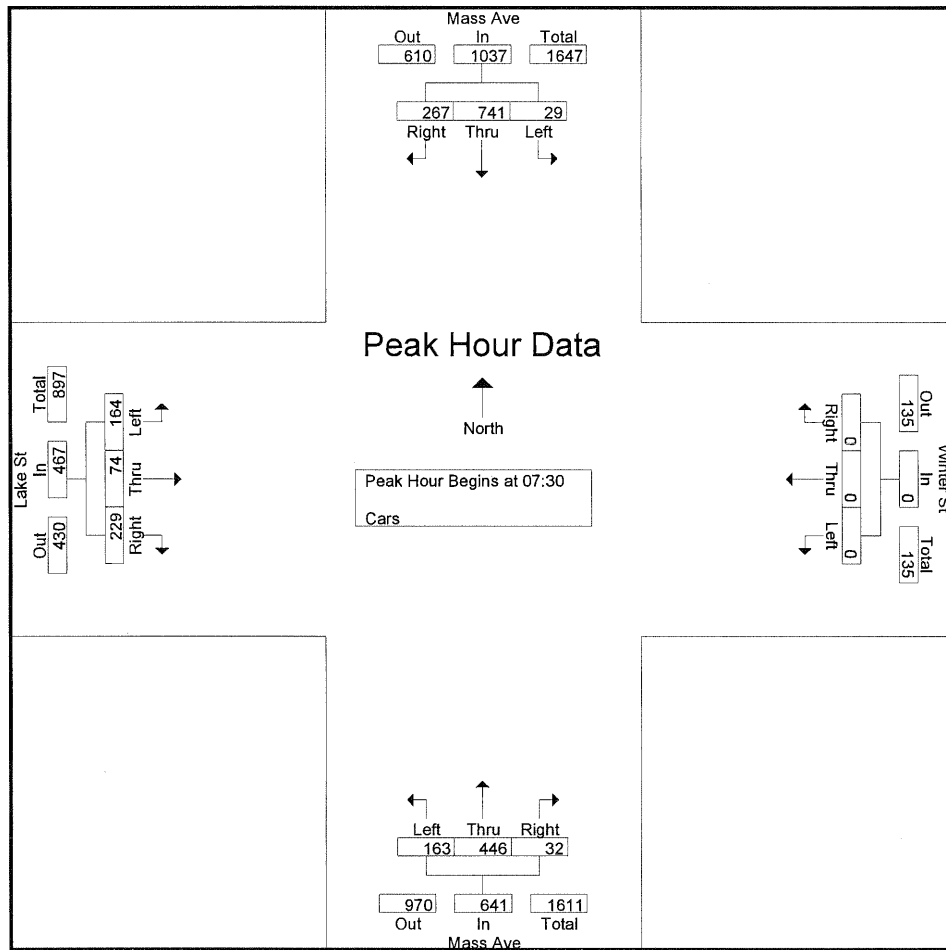
Accurate Counts
 978-664-2565

File Name : 013000A4
 Site Code : 01300004
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

Start Time	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	5	112	43	0	0	0	35	45	4	34	10	49	337
07:15	3	157	54	0	0	0	37	67	4	23	9	68	422
07:30	5	166	80	0	0	0	44	120	4	41	19	61	540
07:45	10	179	82	0	0	0	41	99	6	36	15	80	548
Total	23	614	259	0	0	0	157	331	18	134	53	258	1847
08:00	5	179	66	0	0	0	43	108	10	35	26	46	518
08:15	9	217	39	0	0	0	35	119	12	52	14	42	539
08:30	3	165	73	0	0	0	40	101	1	42	15	56	496
08:45	4	182	64	0	0	0	41	82	1	34	13	62	483
Total	21	743	242	0	0	0	159	410	24	163	68	206	2036
Grand Total	44	1357	501	0	0	0	316	741	42	297	121	464	3883
Apprch %	2.3	71.3	26.3	0	0	0	28.8	67.4	3.8	33.7	13.7	52.6	
Total %	1.1	34.9	12.9	0	0	0	8.1	19.1	1.1	7.6	3.1	11.9	

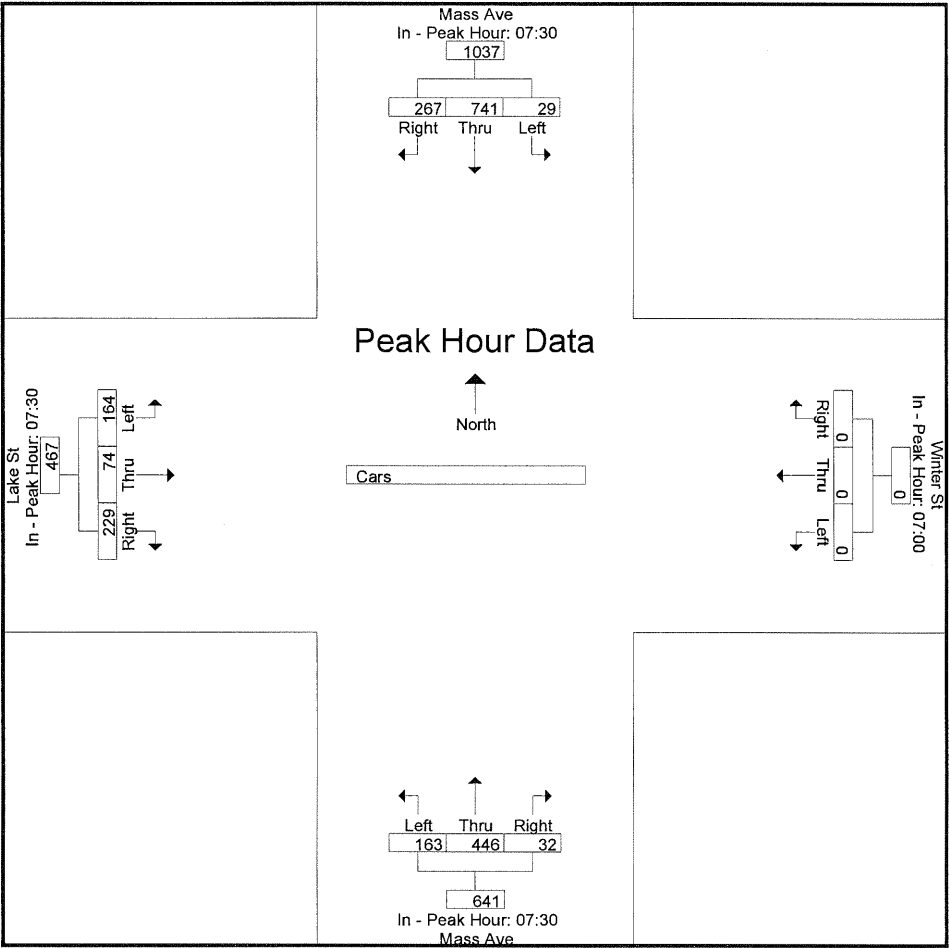
	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	5	166	80	251	0	0	0	0	44	120	4	168	41	19	61	121	540
07:45	10	179	82	271	0	0	0	0	41	99	6	146	36	15	80	131	548
08:00	5	179	66	250	0	0	0	0	43	108	10	161	35	26	46	107	518
08:15	9	217	39	265	0	0	0	0	35	119	12	166	52	14	42	108	539
Total Volume	29	741	267	1037	0	0	0	0	163	446	32	641	164	74	229	467	2145
% App. Total	2.8	71.5	25.7		0	0	0		25.4	69.6	5		35.1	15.8	49		
PHF	.725	.854	.814	.957	.000	.000	.000	.000	.926	.929	.667	.954	.788	.712	.716	.891	.979



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:00				07:30				07:30			
+0 mins.	5	166	80	251	0	0	0	0	44	120	4	168	41	19	61	121
+15 mins.	10	179	82	271	0	0	0	0	41	99	6	146	36	15	80	131
+30 mins.	5	179	66	250	0	0	0	0	43	108	10	161	35	26	46	107
+45 mins.	9	217	39	265	0	0	0	0	35	119	12	166	52	14	42	108
Total Volume	29	741	267	1037	0	0	0	0	163	446	32	641	164	74	229	467
% App. Total	2.8	71.5	25.7		0	0	0		25.4	69.6	5		35.1	15.8	49	
PHF	.725	.854	.814	.957	.000	.000	.000	.000	.926	.929	.667	.954	.788	.712	.716	.891



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000A4
 Site Code : 01300004
 Start Date : 10/21/2008
 Page No : 1

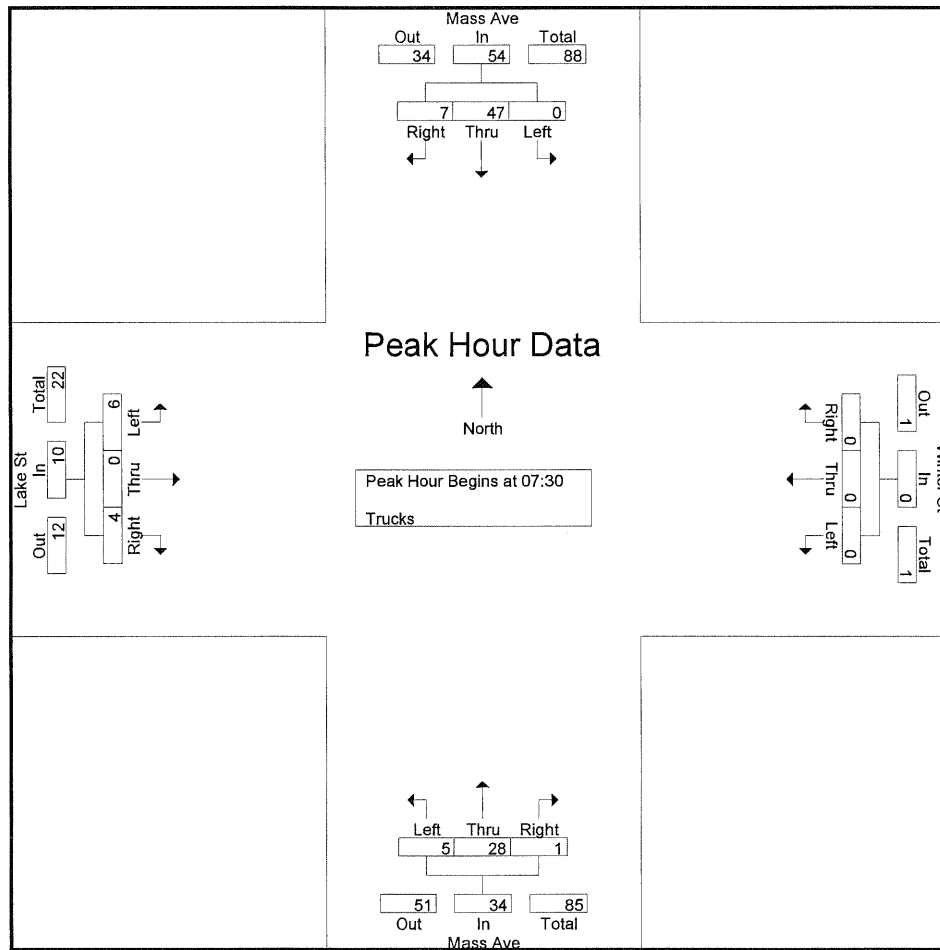
Groups Printed- Trucks

	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	6	0	0	0	0	3	6	1	0	0	2	18
07:15	0	10	1	0	0	0	1	9	0	1	1	2	25
07:30	0	9	3	0	0	0	0	10	0	0	0	1	23
07:45	0	10	1	0	0	0	4	5	0	0	0	2	22
Total	0	35	5	0	0	0	8	30	1	1	1	7	88
08:00	0	12	1	0	0	0	0	4	0	1	0	0	18
08:15	0	16	2	0	0	0	1	9	1	5	0	1	35
08:30	0	9	1	0	0	0	4	6	0	2	0	0	22
08:45	0	5	1	0	0	0	0	6	0	1	2	1	16
Total	0	42	5	0	0	0	5	25	1	9	2	2	91
Grand Total	0	77	10	0	0	0	13	55	2	10	3	9	179
Apprch %	0	88.5	11.5	0	0	0	18.6	78.6	2.9	45.5	13.6	40.9	
Total %	0	43	5.6	0	0	0	7.3	30.7	1.1	5.6	1.7	5	

	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	9	3	12	0	0	0	0	0	10	0	10	0	0	1	1	23
07:45	0	10	1	11	0	0	0	0	4	5	0	9	0	0	2	2	22
08:00	0	12	1	13	0	0	0	0	0	4	0	4	1	0	0	1	18
08:15	0	16	2	18	0	0	0	0	1	9	1	11	5	0	1	6	35
Total Volume	0	47	7	54	0	0	0	0	5	28	1	34	6	0	4	10	98
% App. Total	0	87	13		0	0	0		14.7	82.4	2.9		60	0	40		
PHF	.000	.734	.583	.750	.000	.000	.000	.000	.313	.700	.250	.773	.300	.000	.500	.417	.700

Accurate Counts
978-664-2565

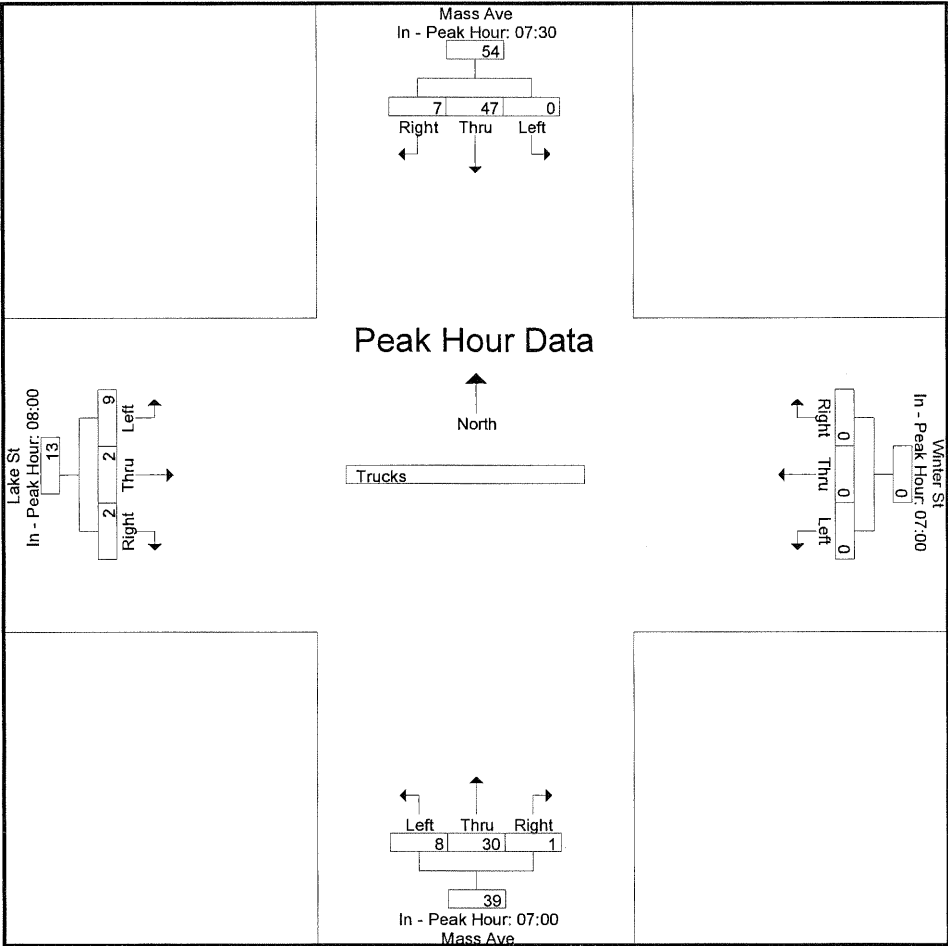
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Site Code : 01300004
Start Date : 10/21/2008
Page No : 2



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30				07:00				07:00				08:00			
+0 mins.	0	9	3	12	0	0	0	0	3	6	1	10	1	0	0	1
+15 mins.	0	10	1	11	0	0	0	0	1	9	0	10	5	0	1	6
+30 mins.	0	12	1	13	0	0	0	0	0	10	0	10	2	0	0	2
+45 mins.	0	16	2	18	0	0	0	0	4	5	0	9	1	2	1	4
Total Volume	0	47	7	54	0	0	0	0	8	30	1	39	9	2	2	13
% App. Total	0	87	13		0	0	0		20.5	76.9	2.6		69.2	15.4	15.4	
PHF	.000	.734	.583	.750	.000	.000	.000	.000	.500	.750	.250	.975	.450	.250	.500	.542



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

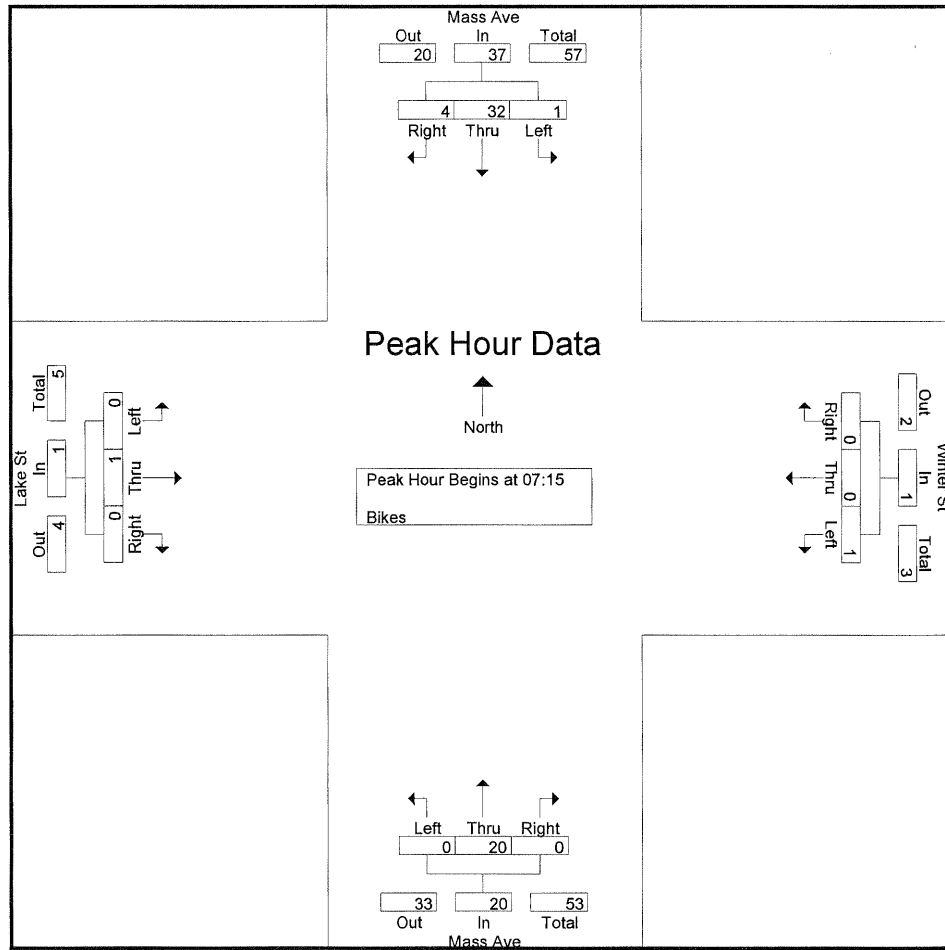
Accurate Counts
 978-664-2565

File Name : 013000A4
 Site Code : 01300004
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

Start Time	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	5	0	0	0	0	0	1	0	0	0	0	6
07:15	0	8	0	0	0	0	0	10	0	0	1	0	19
07:30	0	6	1	0	0	0	0	2	0	0	0	0	9
07:45	1	10	0	1	0	0	0	2	0	0	0	0	14
Total	1	29	1	1	0	0	0	15	0	0	1	0	48
08:00	0	8	3	0	0	0	0	6	0	0	0	0	17
08:15	0	8	0	0	0	0	0	2	0	0	0	0	10
08:30	0	7	3	0	0	0	1	2	0	0	0	0	13
08:45	0	4	0	0	0	0	1	3	0	1	0	0	9
Total	0	27	6	0	0	0	2	13	0	1	0	0	49
Grand Total	1	56	7	1	0	0	2	28	0	1	1	0	97
Apprch %	1.6	87.5	10.9	100	0	0	6.7	93.3	0	50	50	0	
Total %	1	57.7	7.2	1	0	0	2.1	28.9	0	1	1	0	

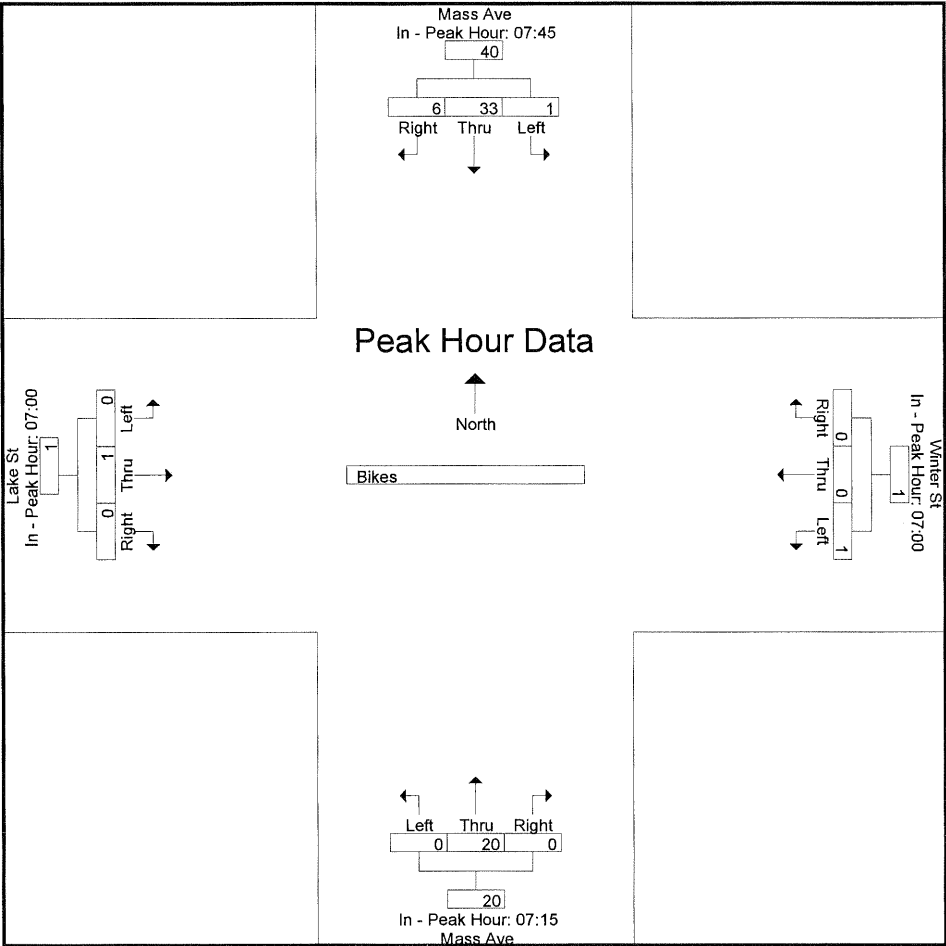
	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	8	0	8	0	0	0	0	0	10	0	10	0	1	0	1	19
07:30	0	6	1	7	0	0	0	0	0	2	0	2	0	0	0	0	9
07:45	1	10	0	11	1	0	0	1	0	2	0	2	0	0	0	0	14
08:00	0	8	3	11	0	0	0	0	0	6	0	6	0	0	0	0	17
Total Volume	1	32	4	37	1	0	0	1	0	20	0	20	0	1	0	1	59
% App. Total	2.7	86.5	10.8		100	0	0		0	100	0		0	100	0		
PHF	.250	.800	.333	.841	.250	.000	.000	.250	.000	.500	.000	.500	.000	.250	.000	.250	.776



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45				07:00				07:15				07:00			
+0 mins.	1	10	0	11	0	0	0	0	0	10	0	10	0	0	0	0
+15 mins.	0	8	3	11	0	0	0	0	0	2	0	2	0	1	0	1
+30 mins.	0	8	0	8	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	7	3	10	1	0	0	1	0	6	0	6	0	0	0	0
Total Volume	1	33	6	40	1	0	0	1	0	20	0	20	0	1	0	1
% App. Total	2.5	82.5	15		100	0	0		0	100	0		0	100	0	
PHF	.250	.825	.500	.909	.250	.000	.000	.250	.000	.500	.000	.500	.000	.250	.000	.250



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

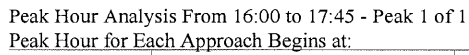
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 Start Date : 10/21/2008
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Groups Printed- Cars - Trucks

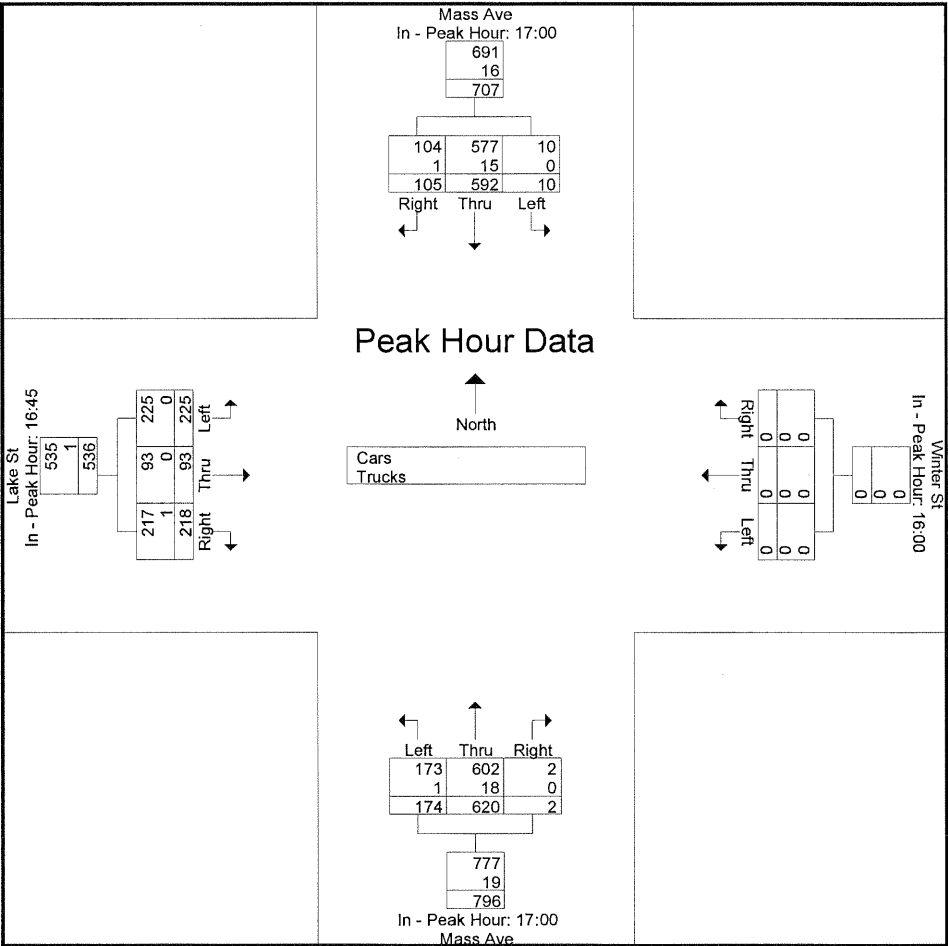
	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	3	122	22	0	0	0	32	128	1	55	30	1	394
16:15	4	130	27	0	0	0	33	129	1	68	29	0	421
16:30	4	119	21	0	0	0	32	106	0	45	35	44	406
16:45	1	137	24	0	0	0	39	164	1	57	29	58	510
Total	12	508	94	0	0	0	136	527	3	225	123	103	1731
17:00	4	127	19	0	0	0	38	137	0	56	18	45	444
17:15	1	149	29	0	0	0	52	161	0	58	23	47	520
17:30	3	140	26	0	0	0	43	158	0	54	23	68	515
17:45	2	176	31	0	0	0	41	164	2	56	9	47	528
Total	10	592	105	0	0	0	174	620	2	224	73	207	2007
Grand Total	22	1100	199	0	0	0	310	1147	5	449	196	310	3738
Apprch %	1.7	83.3	15.1	0	0	0	21.2	78.5	0.3	47	20.5	32.5	
Total %	0.6	29.4	5.3	0	0	0	8.3	30.7	0.1	12	5.2	8.3	
Cars	22	1070	197	0	0	0	307	1109	5	448	195	308	3661
% Cars	100	97.3	99	0	0	0	99	96.7	100	99.8	99.5	99.4	97.9
Trucks	0	30	2	0	0	0	3	38	0	1	1	2	77
% Trucks	0	2.7	1	0	0	0	1	3.3	0	0.2	0.5	0.6	2.1

	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	4	127	19	150	0	0	0	0	38	137	0	175	56	18	45	119	444
17:15	1	149	29	179	0	0	0	0	52	161	0	213	58	23	47	128	520
17:30	3	140	26	169	0	0	0	0	43	158	0	201	54	23	68	145	515
17:45	2	176	31	209	0	0	0	0	41	164	2	207	56	9	47	112	528
Total Volume	10	592	105	707	0	0	0	0	174	620	2	796	224	73	207	504	2007
% App. Total	1.4	83.7	14.9		0	0	0		21.9	77.9	0.3		44.4	14.5	41.1		
PHF	.625	.841	.847	.846	.000	.000	.000	.000	.837	.945	.250	.934	.966	.793	.761	.869	.950
Cars	10	577	104	691	0	0	0	0	173	602	2	777	224	73	206	503	1971
% Cars	100	97.5	99.0	97.7	0	0	0	0	99.4	97.1	100	97.6	100	100	99.5	99.8	98.2
Trucks	0	15	1	16	0	0	0	0	1	18	0	19	0	0	1	1	36
% Trucks	0	2.5	1.0	2.3	0	0	0	0	0.6	2.9	0	2.4	0	0	0.5	0.2	1.8

File Name : 013000A4
Site Code : 01300004
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Peak Hour for Each Approach Begins at																
	17:00				16:00				17:00				16:45			
+0 mins.	4	127	19	150	0	0	0	0	38	137	0	175	57	29	58	144
+15 mins.	1	149	29	179	0	0	0	0	52	161	0	213	56	18	45	119
+30 mins.	3	140	26	169	0	0	0	0	43	158	0	201	58	23	47	128
+45 mins.	2	176	31	209	0	0	0	0	41	164	2	207	54	23	68	145
Total Volume	10	592	105	707	0	0	0	0	174	620	2	796	225	93	218	536
% App. Total	1.4	83.7	14.9		0	0	0		21.9	77.9	0.3		42	17.4	40.7	
PHF	.625	.841	.847	.846	.000	.000	.000	.000	.837	.945	.250	.934	.970	.802	.801	.924
Cars	10	577	104	691	0	0	0	0	173	602	2	777	225	93	217	535
% Cars	100	97.5	99	97.7	0	0	0	0	99.4	97.1	100	97.6	100	100	99.5	99.8
Trucks	0	15	1	16	0	0	0	0	1	18	0	19	0	0	1	1
% Trucks	0	2.5	1	2.3	0	0	0	0	0.6	2.9	0	2.4	0	0	0.5	0.2



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

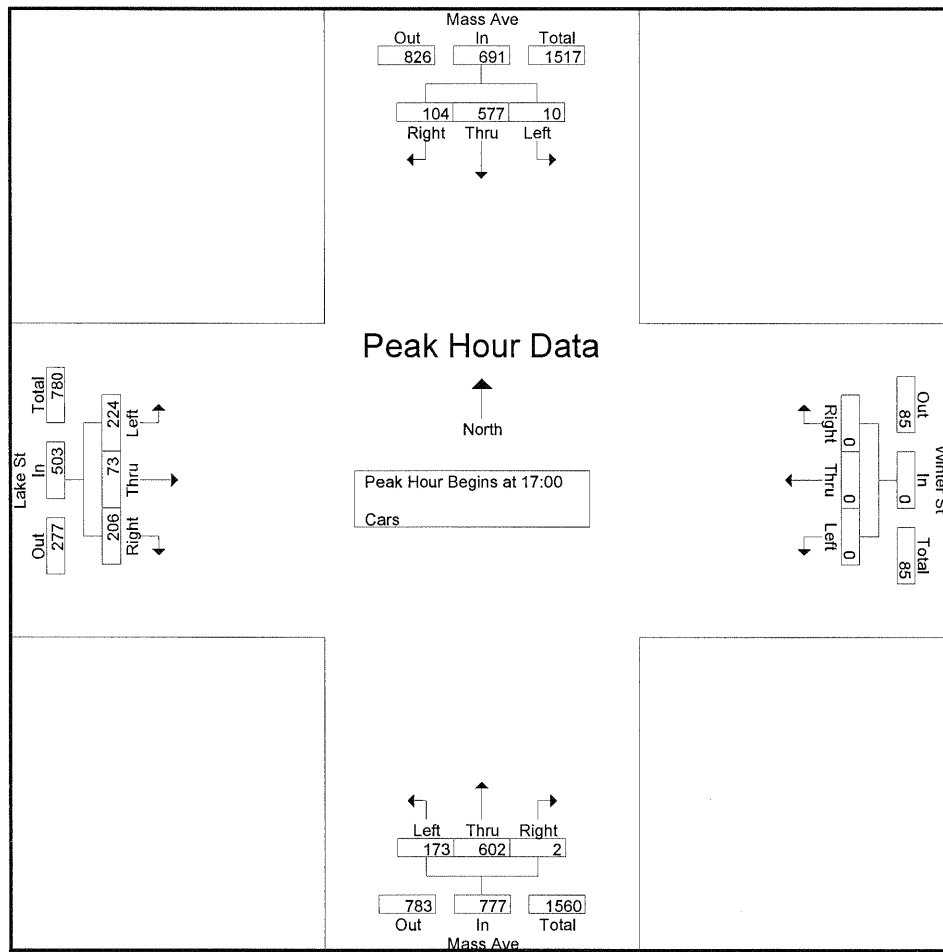
Accurate Counts
 978-664-2565

File Name : 013000A4
 Site Code : 01300004
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

Start Time	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	3	118	22	0	0	0	32	122	1	54	30	0	382
16:15	4	125	26	0	0	0	31	124	1	68	29	0	408
16:30	4	116	21	0	0	0	32	101	0	45	34	44	397
16:45	1	134	24	0	0	0	39	160	1	57	29	58	503
Total	12	493	93	0	0	0	134	507	3	224	122	102	1690
17:00	4	123	19	0	0	0	37	133	0	56	18	45	435
17:15	1	148	28	0	0	0	52	157	0	58	23	47	514
17:30	3	134	26	0	0	0	43	154	0	54	23	67	504
17:45	2	172	31	0	0	0	41	158	2	56	9	47	518
Total	10	577	104	0	0	0	173	602	2	224	73	206	1971
Grand Total	22	1070	197	0	0	0	307	1109	5	448	195	308	3661
Apprch %	1.7	83	15.3	0	0	0	21.6	78	0.4	47.1	20.5	32.4	
Total %	0.6	29.2	5.4	0	0	0	8.4	30.3	0.1	12.2	5.3	8.4	

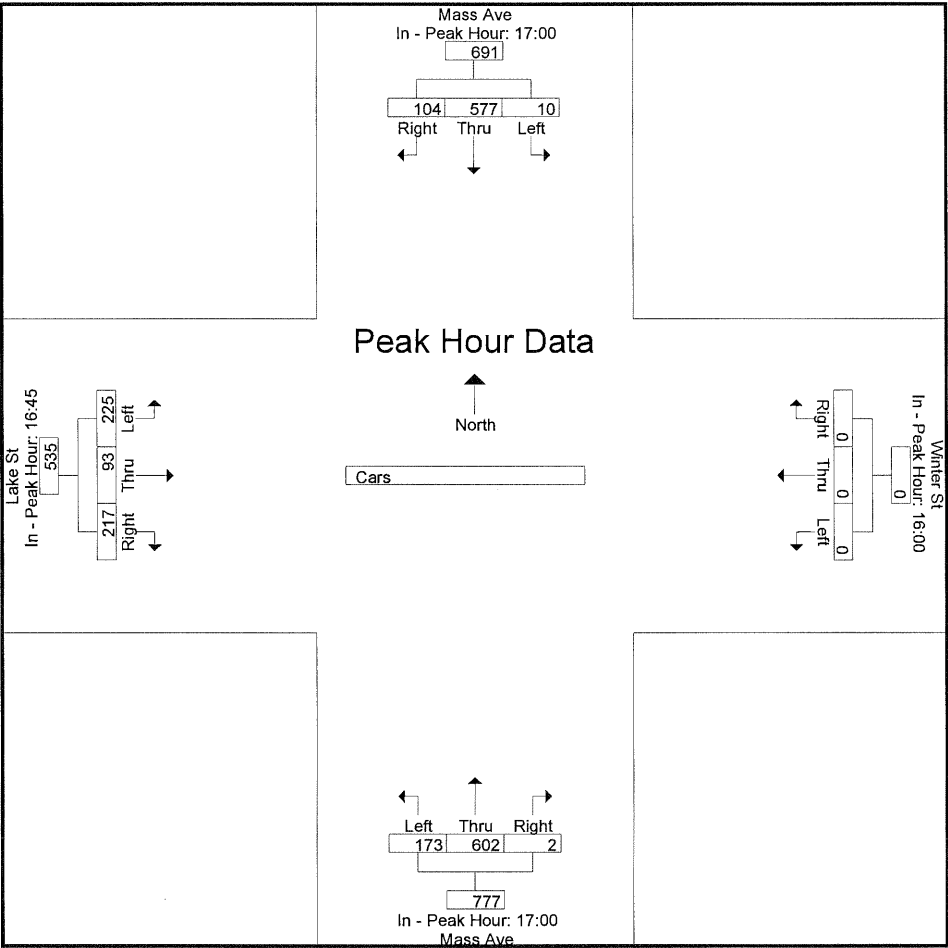
	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	4	123	19	146	0	0	0	0	37	133	0	170	56	18	45	119	435
17:15	1	148	28	177	0	0	0	0	52	157	0	209	58	23	47	128	514
17:30	3	134	26	163	0	0	0	0	43	154	0	197	54	23	67	144	504
17:45	2	172	31	205	0	0	0	0	41	158	2	201	56	9	47	112	518
Total Volume	10	577	104	691	0	0	0	0	173	602	2	777	224	73	206	503	1971
% App. Total	1.4	83.5	15.1		0	0	0		22.3	77.5	0.3		44.5	14.5	41		
PHF	.625	.839	.839	.843	.000	.000	.000	.000	.832	.953	.250	.929	.966	.793	.769	.873	.951



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				16:00				17:00				16:45			
+0 mins.	4	123	19	146	0	0	0	0	37	133	0	170	57	29	58	144
+15 mins.	1	148	28	177	0	0	0	0	52	157	0	209	56	18	45	119
+30 mins.	3	134	26	163	0	0	0	0	43	154	0	197	58	23	47	128
+45 mins.	2	172	31	205	0	0	0	0	41	158	2	201	54	23	67	144
Total Volume	10	577	104	691	0	0	0	0	173	602	2	777	225	93	217	535
% App. Total	1.4	83.5	15.1		0	0	0		22.3	77.5	0.3		42.1	17.4	40.6	
PHF	.625	.839	.839	.843	.000	.000	.000	.000	.832	.953	.250	.929	.970	.802	.810	.929



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

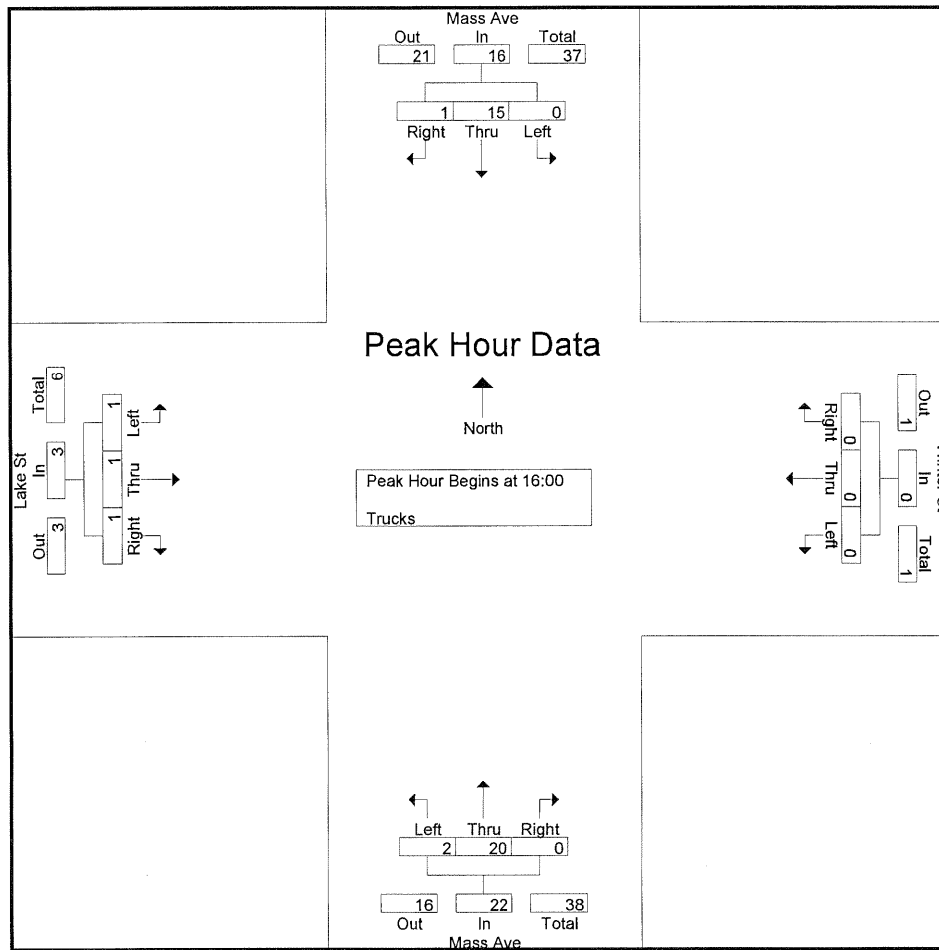
Accurate Counts
 978-664-2565

File Name : 013000A4
 Site Code : 01300004
 Start Date : 10/21/2008
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Groups Printed- Trucks

	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	4	0	0	0	0	0	6	0	1	0	1	12
16:15	0	5	1	0	0	0	2	5	0	0	0	0	13
16:30	0	3	0	0	0	0	0	5	0	0	1	0	9
16:45	0	3	0	0	0	0	0	4	0	0	0	0	7
Total	0	15	1	0	0	0	2	20	0	1	1	1	41
17:00	0	4	0	0	0	0	1	4	0	0	0	0	9
17:15	0	1	1	0	0	0	0	4	0	0	0	0	6
17:30	0	6	0	0	0	0	0	4	0	0	0	1	11
17:45	0	4	0	0	0	0	0	6	0	0	0	0	10
Total	0	15	1	0	0	0	1	18	0	0	0	1	36
Grand Total	0	30	2	0	0	0	3	38	0	1	1	2	77
Apprch %	0	93.8	6.2	0	0	0	7.3	92.7	0	25	25	50	
Total %	0	39	2.6	0	0	0	3.9	49.4	0	1.3	1.3	2.6	

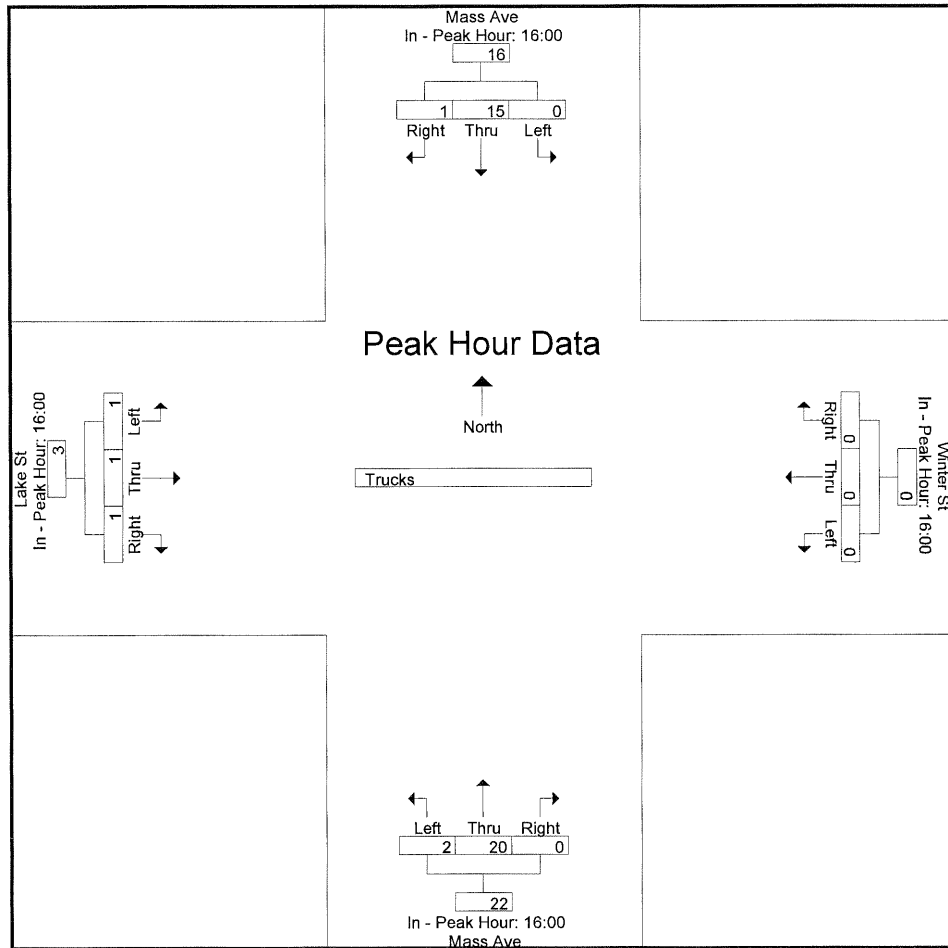
	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	4	0	4	0	0	0	0	0	6	0	6	1	0	1	2	12
16:15	0	5	1	6	0	0	0	0	2	5	0	7	0	0	0	0	13
16:30	0	3	0	3	0	0	0	0	0	5	0	5	0	1	0	1	9
16:45	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
Total Volume	0	15	1	16	0	0	0	0	2	20	0	22	1	1	1	3	41
% App. Total	0	93.8	6.2		0	0	0		9.1	90.9	0		33.3	33.3	33.3		
PHF	.000	.750	.250	.667	.000	.000	.000	.000	.250	.833	.000	.786	.250	.250	.250	.375	.788



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				16:00				16:00				16:00			
+0 mins.	0	4	0	4	0	0	0	0	0	6	0	6	1	0	1	2
+15 mins.	0	5	1	6	0	0	0	0	2	5	0	7	0	0	0	0
+30 mins.	0	3	0	3	0	0	0	0	0	5	0	5	0	1	0	1
+45 mins.	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0
Total Volume	0	15	1	16	0	0	0	0	2	20	0	22	1	1	1	3
% App. Total	0	93.8	6.2		0	0	0		9.1	90.9	0		33.3	33.3	33.3	
PHF	.000	.750	.250	.667	.000	.000	.000	.000	.250	.833	.000	.786	.250	.250	.250	.375



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000A4
 Site Code : 01300004
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

	Mass Ave From North		Winter St From East		Mass Ave From South		Lake St From West		
Start Time	WB	EB	NB	SB	EB	WB	SB	NB	Int. Total
16:00	7	8	1	2	2	2	2	3	27
16:15	4	5	2	1	7	1	0	3	23
16:30	1	2	1	4	4	9	1	1	23
16:45	3	2	1	2	2	1	2	4	17
Total	15	17	5	9	15	13	5	11	90
17:00	8	3	2	1	8	3	3	4	32
17:15	3	2	0	2	0	4	3	5	19
17:30	2	2	0	3	0	2	1	5	15
17:45	4	2	1	2	2	3	5	2	21
Total	17	9	3	8	10	12	12	16	87
Grand Total	32	26	8	17	25	25	17	27	177
Apprch %	55.2	44.8	32	68	50	50	38.6	61.4	
Total %	18.1	14.7	4.5	9.6	14.1	14.1	9.6	15.3	

	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 16:15													
16:15	4	5	9	2	1	3	7	1	8	0	3	3	23
16:30	1	2	3	1	4	5	4	9	13	1	1	2	23
16:45	3	2	5	1	2	3	2	1	3	2	4	6	17
17:00	8	3	11	2	1	3	8	3	11	3	4	7	32
Total Volume	16	12	28	6	8	14	21	14	35	6	12	18	95
% App. Total	57.1	42.9		42.9	57.1		60	40		33.3	66.7		
PHF	.500	.600	.636	.750	.500	.700	.656	.389	.673	.500	.750	.643	.742

N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000A4
 Site Code : 01300004
 Start Date : 10/21/2008
 Page No : 1

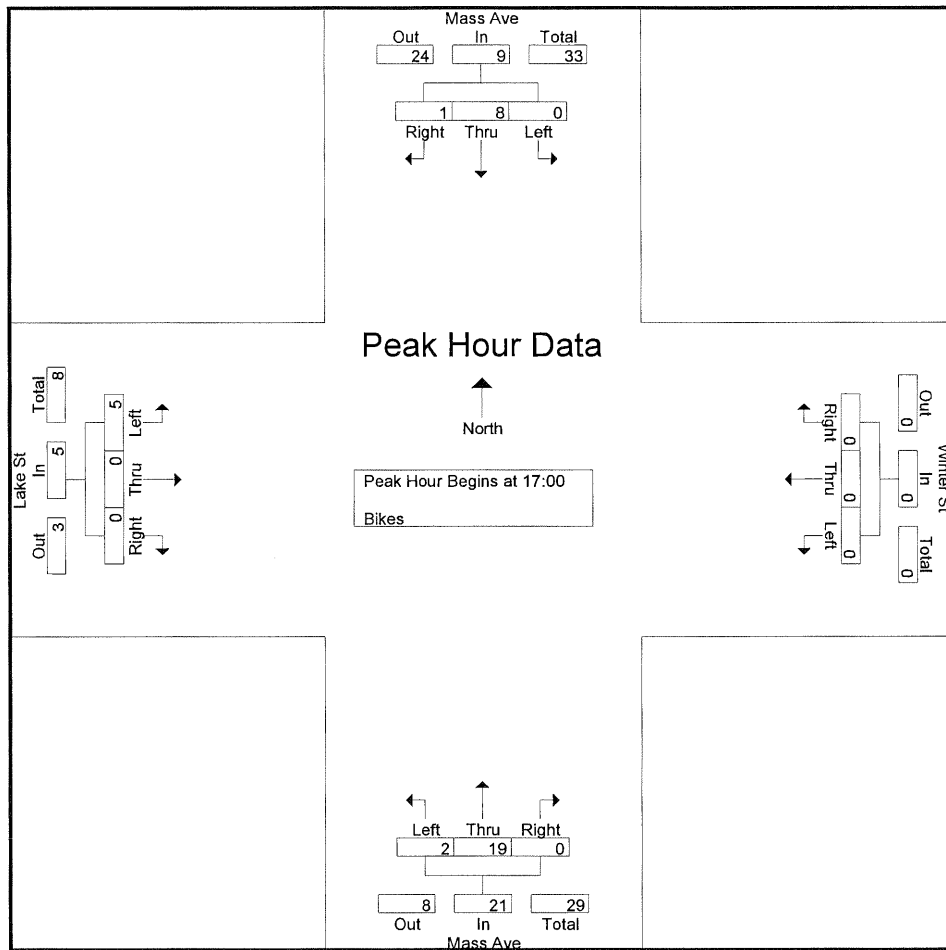
Groups Printed- Bikes

Start Time	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	2	0	0	0	0	0	1	0	1	0	0	4
16:15	0	0	0	0	0	0	0	3	0	0	0	0	3
16:30	0	0	0	0	0	0	0	5	0	0	0	0	5
16:45	0	0	0	0	0	0	0	7	0	0	0	0	7
Total	0	2	0	0	0	0	0	16	0	1	0	0	19
17:00	0	0	0	0	0	0	1	2	0	2	0	0	5
17:15	0	3	0	0	0	0	0	4	0	1	0	0	8
17:30	0	2	1	0	0	0	0	0	0	0	0	0	3
17:45	0	3	0	0	0	0	1	13	0	2	0	0	19
Total	0	8	1	0	0	0	2	19	0	5	0	0	35
Grand Total	0	10	1	0	0	0	2	35	0	6	0	0	54
Apprch %	0	90.9	9.1	0	0	0	5.4	94.6	0	100	0	0	
Total %	0	18.5	1.9	0	0	0	3.7	64.8	0	11.1	0	0	

	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	0	0	0	1	2	0	3	2	0	0	2	5
17:15	0	3	0	3	0	0	0	0	0	4	0	4	1	0	0	1	8
17:30	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
17:45	0	3	0	3	0	0	0	0	1	13	0	14	2	0	0	2	19
Total Volume	0	8	1	9	0	0	0	0	2	19	0	21	5	0	0	5	35
% App. Total	0	88.9	11.1		0	0	0		9.5	90.5	0		100	0	0		
PHF	.000	.667	.250	.750	.000	.000	.000	.000	.500	.365	.000	.375	.625	.000	.000	.625	.461

Accurate Counts
978-664-2565

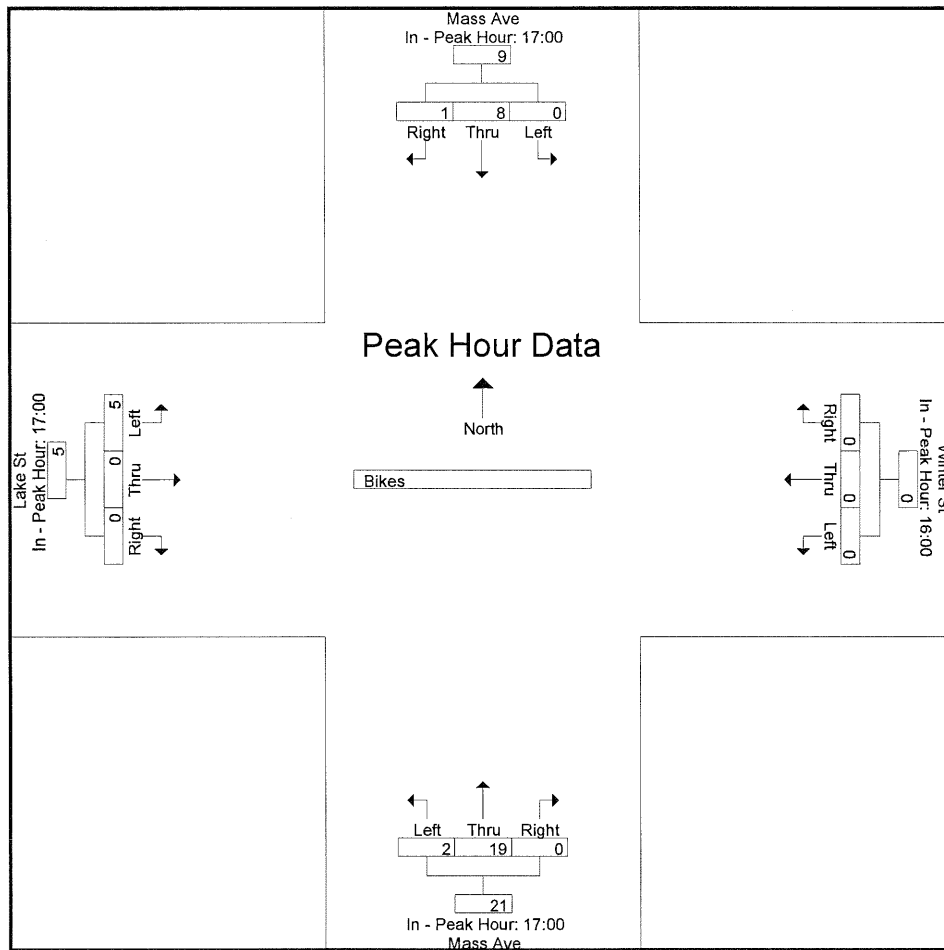
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Site Code : 01300004
Start Date : 10/21/2008
Page No : 2



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00				16:00				17:00				17:00			
+0 mins.	0	0	0	0	0	0	0	0	1	2	0	3	2	0	0	2
+15 mins.	0	3	0	3	0	0	0	0	0	4	0	4	1	0	0	1
+30 mins.	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	3	0	3	0	0	0	0	1	13	0	14	2	0	0	2
Total Volume	0	8	1	9	0	0	0	0	2	19	0	21	5	0	0	5
% App. Total	0	88.9	11.1		0	0	0	0	9.5	90.5	0		100	0	0	
PHF	.000	.667	.250	.750	.000	.000	.000	.000	.500	.365	.000	.375	.625	.000	.000	.625



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300004
 Site Code : 01300004
 Start Date : 10/18/2008
 Page No : 1

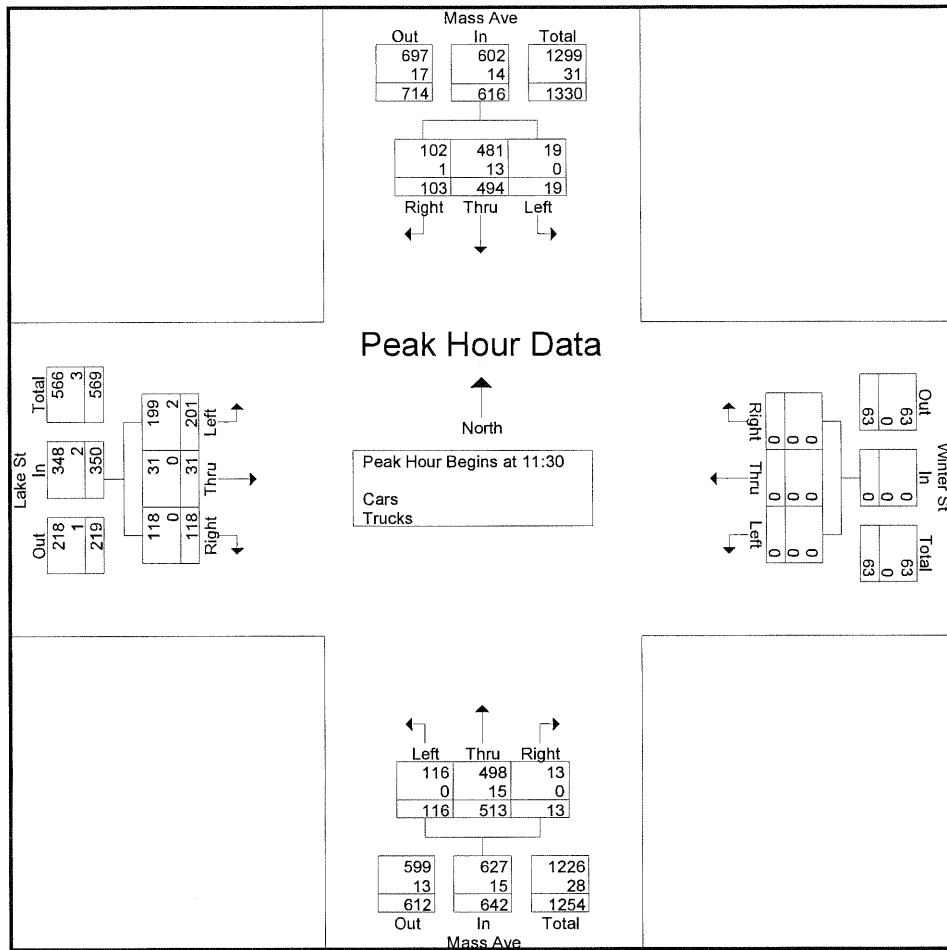
Groups Printed- Cars - Trucks

Start Time	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	6	129	34	0	0	0	36	133	1	56	5	25	425
11:45	8	155	31	0	0	0	21	148	7	53	11	39	473
Total	14	284	65	0	0	0	57	281	8	109	16	64	898
12:00	1	90	21	0	0	0	28	125	4	46	10	28	353
12:15	4	120	17	0	0	0	31	107	1	46	5	26	357
12:30	5	109	30	0	0	0	26	105	5	38	9	38	365
12:45	5	98	20	0	0	0	26	134	2	37	4	13	339
Total	15	417	88	0	0	0	111	471	12	167	28	105	1414
13:00	6	139	35	0	0	0	27	167	9	32	7	31	453
13:15	6	85	37	0	0	0	25	104	11	62	20	24	374
Grand Total	41	925	225	0	0	0	220	1023	40	370	71	224	3139
Apprch %	3.4	77.7	18.9	0	0	0	17.1	79.7	3.1	55.6	10.7	33.7	
Total %	1.3	29.5	7.2	0	0	0	7	32.6	1.3	11.8	2.3	7.1	
Cars	40	900	223	0	0	0	220	989	40	364	71	223	3070
% Cars	97.6	97.3	99.1	0	0	0	100	96.7	100	98.4	100	99.6	97.8
Trucks	1	25	2	0	0	0	0	34	0	6	0	1	69
% Trucks	2.4	2.7	0.9	0	0	0	0	3.3	0	1.6	0	0.4	2.2

	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30																	
11:30	6	129	34	169	0	0	0	0	36	133	1	170	56	5	25	86	425
11:45	8	155	31	194	0	0	0	0	21	148	7	176	53	11	39	103	473
12:00	1	90	21	112	0	0	0	0	28	125	4	157	46	10	28	84	353
12:15	4	120	17	141	0	0	0	0	31	107	1	139	46	5	26	77	357
Total Volume	19	494	103	616	0	0	0	0	116	513	13	642	201	31	118	350	1608
% App. Total	3.1	80.2	16.7		0	0	0		18.1	79.9	2		57.4	8.9	33.7		
PHF	.594	.797	.757	.794	.000	.000	.000	.000	.806	.867	.464	.912	.897	.705	.756	.850	.850
Cars	19	481	102	602	0	0	0	0	116	498	13	627	199	31	118	348	1577
% Cars	100	97.4	99.0	97.7	0	0	0	0	100	97.1	100	97.7	99.0	100	100	99.4	98.1
Trucks	0	13	1	14	0	0	0	0	0	15	0	15	2	0	0	2	31
% Trucks	0	2.6	1.0	2.3	0	0	0	0	0	2.9	0	2.3	1.0	0	0	0.6	1.9

Accurate Counts
978-664-2565

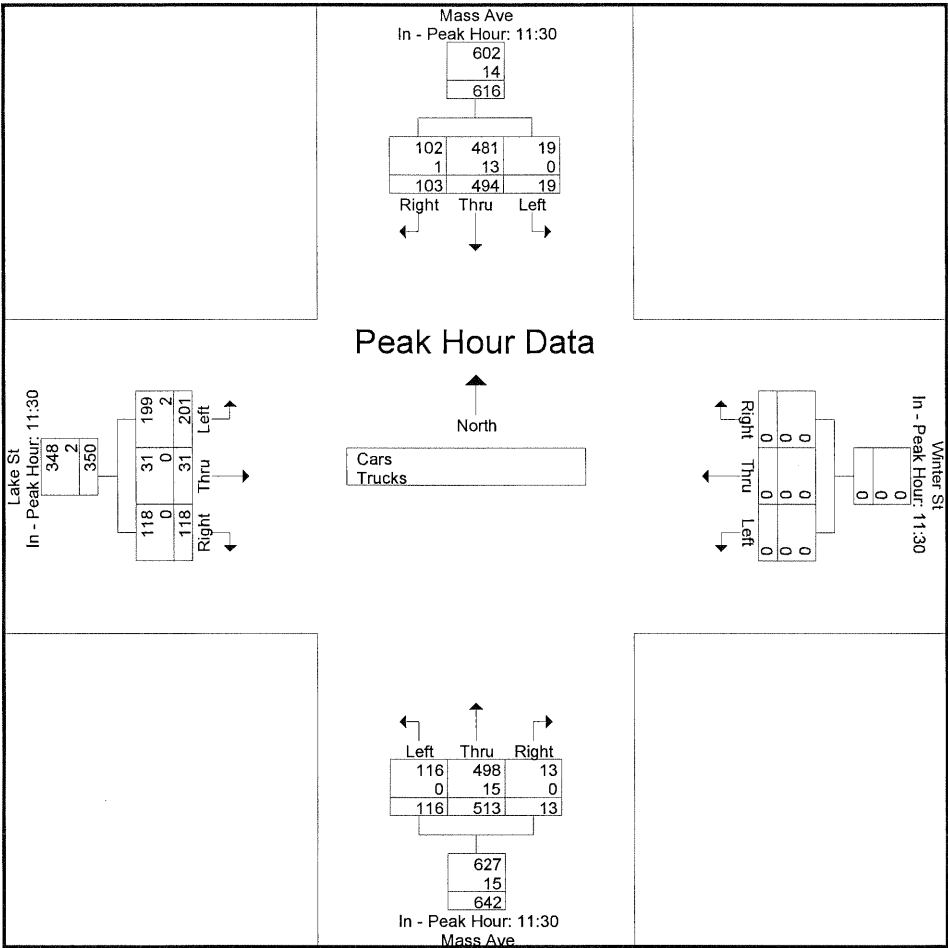
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Site Code : 01300004
Start Date : 10/18/2008
Page No : 2



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:30				11:30				11:30				11:30			
+0 mins.	6	129	34	169	0	0	0	0	36	133	1	170	56	5	25	86
+15 mins.	8	155	31	194	0	0	0	0	21	148	7	176	53	11	39	103
+30 mins.	1	90	21	112	0	0	0	0	28	125	4	157	46	10	28	84
+45 mins.	4	120	17	141	0	0	0	0	31	107	1	139	46	5	26	77
Total Volume	19	494	103	616	0	0	0	0	116	513	13	642	201	31	118	350
% App. Total	3.1	80.2	16.7		0	0	0	0	18.1	79.9	2		57.4	8.9	33.7	
PHF	.594	.797	.757	.794	.000	.000	.000	.000	.806	.867	.464	.912	.897	.705	.756	.850
Cars	19	481	102	602	0	0	0	0	116	498	13	627	199	31	118	348
% Cars	100	97.4	99	97.7	0	0	0	0	100	97.1	100	97.7	99	100	100	99.4
Trucks	0	13	1	14	0	0	0	0	0	15	0	15	2	0	0	2
% Trucks	0	2.6	1	2.3	0	0	0	0	0	2.9	0	2.3	1	0	0	0.6



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

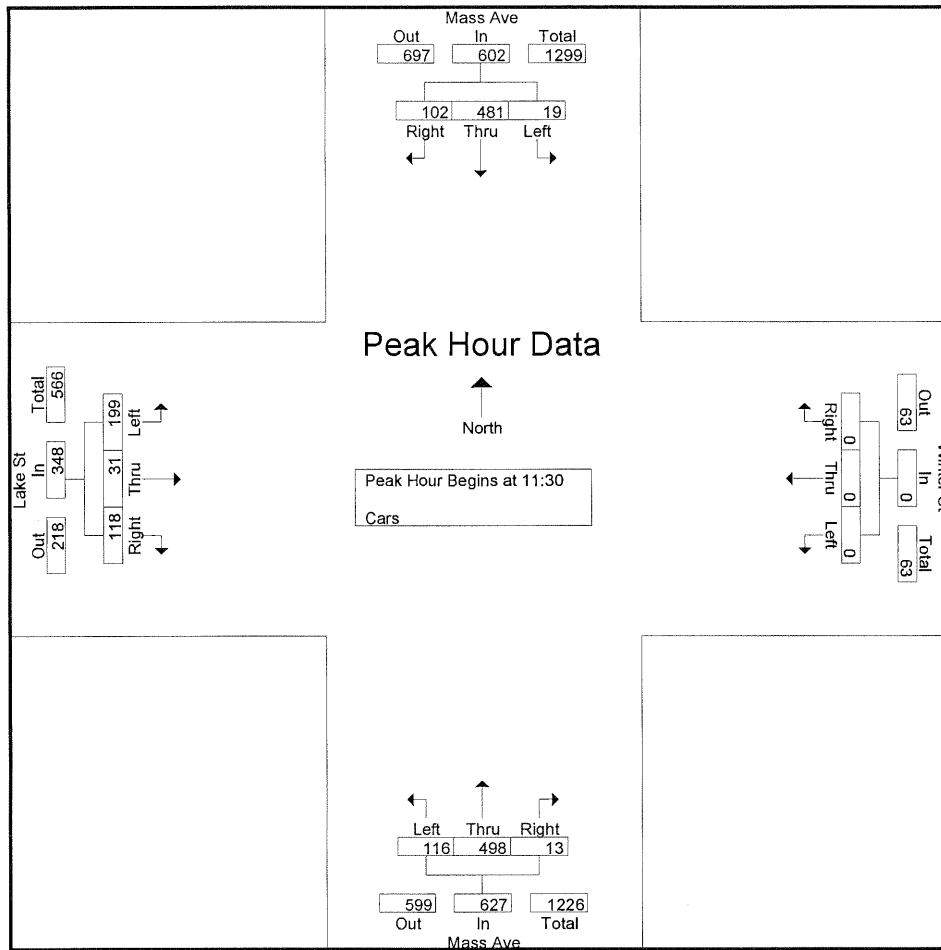
Accurate Counts
 978-664-2565

File Name : 01300004
 Site Code : 01300004
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Cars

	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
11:30	6	126	34	0	0	0	36	130	1	55	5	25	418
11:45	8	150	31	0	0	0	21	145	7	53	11	39	465
Total	14	276	65	0	0	0	57	275	8	108	16	64	883
12:00	1	87	21	0	0	0	28	120	4	45	10	28	344
12:15	4	118	16	0	0	0	31	103	1	46	5	26	350
12:30	5	106	29	0	0	0	26	100	5	38	9	37	355
12:45	4	98	20	0	0	0	26	130	2	34	4	13	331
Total	14	409	86	0	0	0	111	453	12	163	28	104	1380
13:00	6	134	35	0	0	0	27	165	9	32	7	31	446
13:15	6	81	37	0	0	0	25	96	11	61	20	24	361
Grand Total	40	900	223	0	0	0	220	989	40	364	71	223	3070
Apprch %	3.4	77.4	19.2	0	0	0	17.6	79.2	3.2	55.3	10.8	33.9	
Total %	1.3	29.3	7.3	0	0	0	7.2	32.2	1.3	11.9	2.3	7.3	

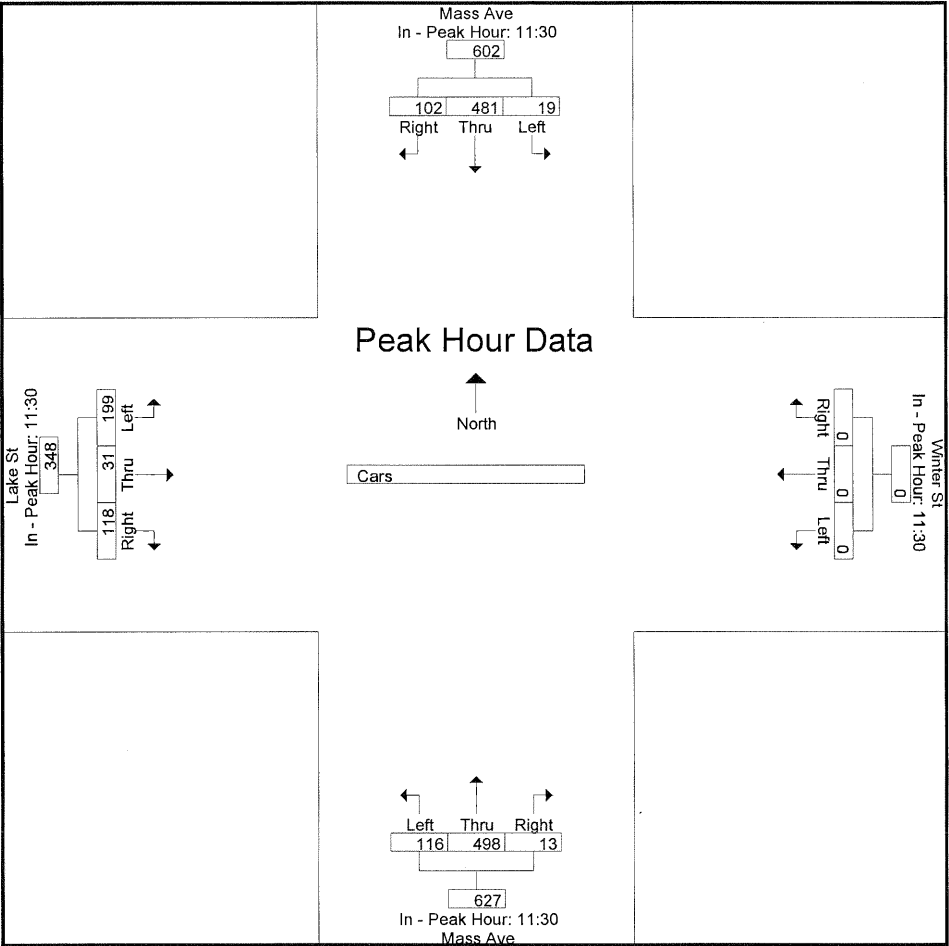
	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30																	
11:30	6	126	34	166	0	0	0	0	36	130	1	167	55	5	25	85	418
11:45	8	150	31	189	0	0	0	0	21	145	7	173	53	11	39	103	465
12:00	1	87	21	109	0	0	0	0	28	120	4	152	45	10	28	83	344
12:15	4	118	16	138	0	0	0	0	31	103	1	135	46	5	26	77	350
Total Volume	19	481	102	602	0	0	0	0	116	498	13	627	199	31	118	348	1577
% App. Total	3.2	79.9	16.9		0	0	0		18.5	79.4	2.1		57.2	8.9	33.9		
PHF	.594	.802	.750	.796	.000	.000	.000	.000	.806	.859	.464	.906	.905	.705	.756	.845	.848



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:30				11:30				11:30				11:30			
+0 mins.	6	126	34	166	0	0	0	0	36	130	1	167	55	5	25	85
+15 mins.	8	150	31	189	0	0	0	0	21	145	7	173	53	11	39	103
+30 mins.	1	87	21	109	0	0	0	0	28	120	4	152	45	10	28	83
+45 mins.	4	118	16	138	0	0	0	0	31	103	1	135	46	5	26	77
Total Volume	19	481	102	602	0	0	0	0	116	498	13	627	199	31	118	348
% App. Total	3.2	79.9	16.9		0	0	0		18.5	79.4	2.1		57.2	8.9	33.9	
PHF	.594	.802	.750	.796	.000	.000	.000	.000	.806	.859	.464	.906	.905	.705	.756	.845



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

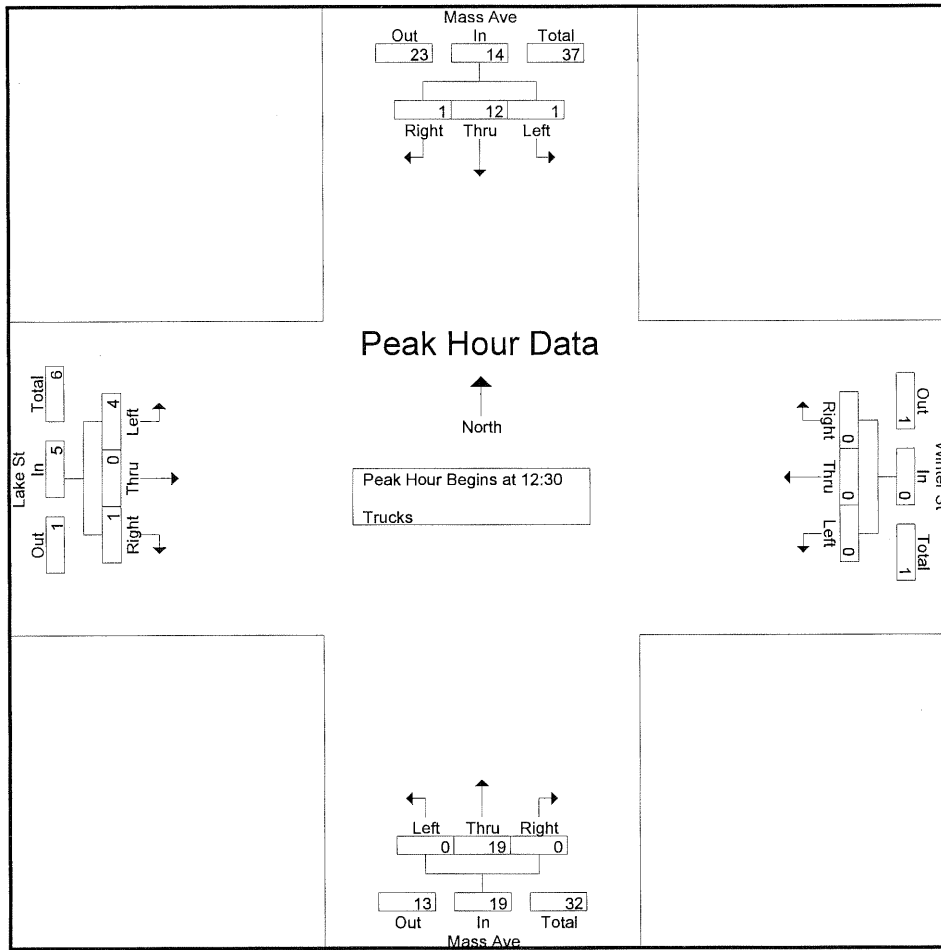
Accurate Counts
 978-664-2565

File Name : 01300004
 Site Code : 01300004
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Trucks

	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	0	3	0	0	0	0	0	3	0	1	0	0	7
11:45	0	5	0	0	0	0	0	3	0	0	0	0	8
Total	0	8	0	0	0	0	0	6	0	1	0	0	15
12:00	0	3	0	0	0	0	0	5	0	1	0	0	9
12:15	0	2	1	0	0	0	0	4	0	0	0	0	7
12:30	0	3	1	0	0	0	0	5	0	0	0	1	10
12:45	1	0	0	0	0	0	0	4	0	3	0	0	8
Total	1	8	2	0	0	0	0	18	0	4	0	1	34
13:00	0	5	0	0	0	0	0	2	0	0	0	0	7
13:15	0	4	0	0	0	0	0	8	0	1	0	0	13
Grand Total	1	25	2	0	0	0	0	34	0	6	0	1	69
Apprch %	3.6	89.3	7.1	0	0	0	0	100	0	85.7	0	14.3	
Total %	1.4	36.2	2.9	0	0	0	0	49.3	0	8.7	0	1.4	

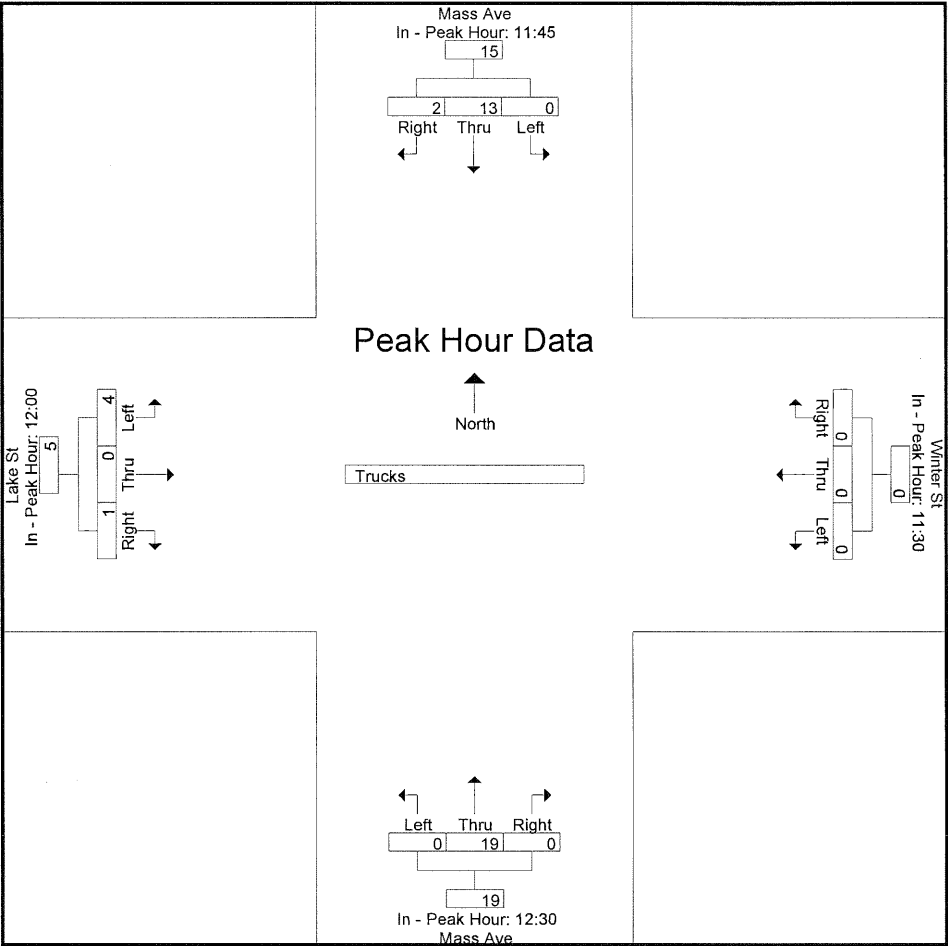
	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30																	
12:30	0	3	1	4	0	0	0	0	0	5	0	5	0	0	1	1	10
12:45	1	0	0	1	0	0	0	0	0	4	0	4	3	0	0	3	8
13:00	0	5	0	5	0	0	0	0	0	2	0	2	0	0	0	0	7
13:15	0	4	0	4	0	0	0	0	0	8	0	8	1	0	0	1	13
Total Volume	1	12	1	14	0	0	0	0	0	19	0	19	4	0	1	5	38
% App. Total	7.1	85.7	7.1		0	0	0		0	100	0		80	0	20		
PHF	.250	.600	.250	.700	.000	.000	.000	.000	.000	.594	.000	.594	.333	.000	.250	.417	.731



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45				11:30				12:30				12:00			
+0 mins.	0	5	0	5	0	0	0	0	0	5	0	5	1	0	0	1
+15 mins.	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0
+30 mins.	0	2	1	3	0	0	0	0	0	2	0	2	0	0	1	1
+45 mins.	0	3	1	4	0	0	0	0	0	8	0	8	3	0	0	3
Total Volume	0	13	2	15	0	0	0	0	0	19	0	19	4	0	1	5
% App. Total	0	86.7	13.3		0	0	0	0	0	100	0		80	0	20	
PHF	.000	.650	.500	.750	.000	.000	.000	.000	.000	.594	.000	.594	.333	.000	.250	.417



N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300004
 Site Code : 01300004
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Peds

Start Time	Mass Ave From North		Winter St From East		Mass Ave From South		Lake St From West		Int. Total
	WB	EB	NB	SB	EB	WB	SB	NB	
11:30	6	34	3	0	4	17	5	34	103
11:45	8	20	3	2	5	10	4	16	68
Total	14	54	6	2	9	27	9	50	171
12:00	4	10	5	0	6	4	4	23	56
12:15	8	12	4	0	4	8	5	13	54
12:30	7	17	2	0	6	13	5	13	63
12:45	6	12	1	4	3	10	2	14	52
Total	25	51	12	4	19	35	16	63	225
13:00	7	8	2	7	4	3	4	11	46
13:15	3	3	4	4	2	4	2	8	30
Grand Total	49	116	24	17	34	69	31	132	472
Apprch %	29.7	70.3	58.5	41.5	33	67	19	81	
Total %	10.4	24.6	5.1	3.6	7.2	14.6	6.6	28	

	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:30													
11:30	6	34	40	3	0	3	4	17	21	5	34	39	103
11:45	8	20	28	3	2	5	5	10	15	4	16	20	68
12:00	4	10	14	5	0	5	6	4	10	4	23	27	56
12:15	8	12	20	4	0	4	4	8	12	5	13	18	54
Total Volume	26	76	102	15	2	17	19	39	58	18	86	104	281
% App. Total	25.5	74.5		88.2	11.8		32.8	67.2		17.3	82.7		
PHF	.813	.559	.638	.750	.250	.850	.792	.574	.690	.900	.632	.667	.682

Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:30			12:30			11:30			11:30		
+0 mins.	6	34	40	2	0	2	4	17	21	5	34	39
+15 mins.	8	20	28	1	4	5	5	10	15	4	16	20
+30 mins.	4	10	14	2	7	9	6	4	10	4	23	27
+45 mins.	8	12	20	4	4	8	4	8	12	5	13	18
Total Volume	26	76	102	9	15	24	19	39	58	18	86	104
% App. Total	25.5	74.5		37.5	62.5		32.8	67.2		17.3	82.7	
PHF	.813	.559	.638	.563	.536	.667	.792	.574	.690	.900	.632	.667

N/S Street : Massachusetts Avenue
 E/W Street: Winter St / Lake St
 City/State : Arlington, MA
 Weather : Clear

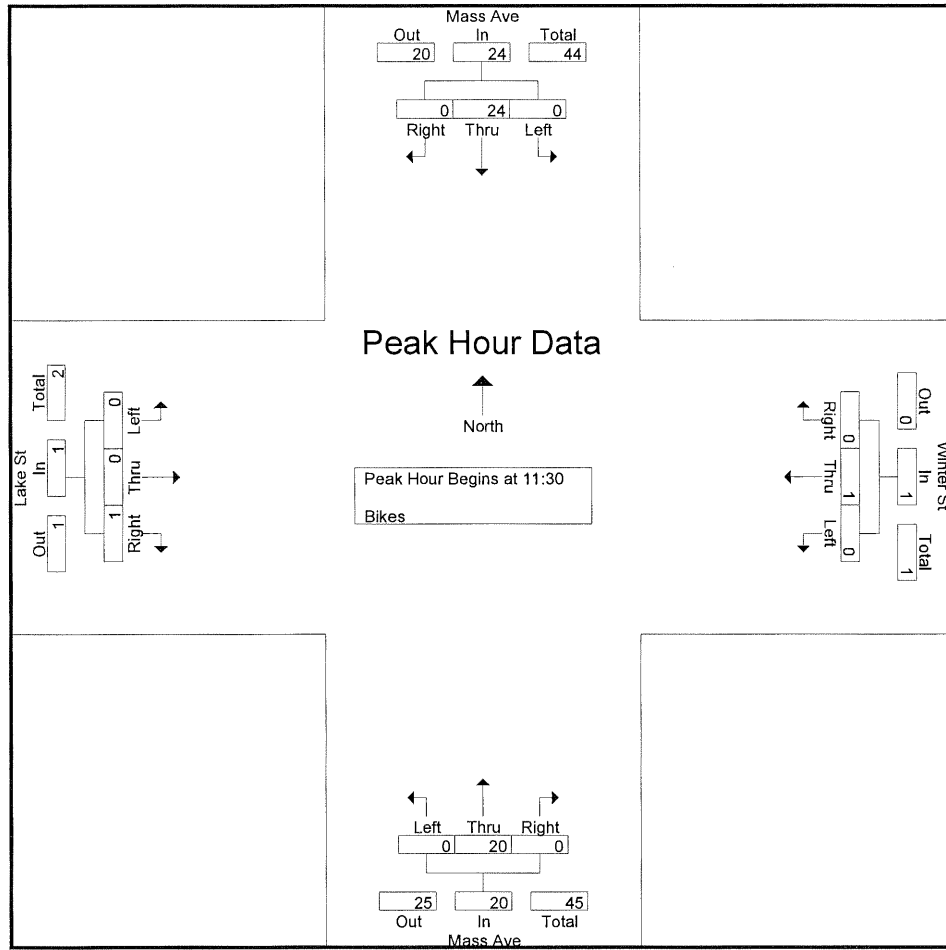
Accurate Counts
 978-664-2565

File Name : 01300004
 Site Code : 01300004
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Bikes

	Mass Ave From North			Winter St From East			Mass Ave From South			Lake St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	0	7	0	0	0	0	0	3	0	0	0	0	10
11:45	0	7	0	0	0	0	0	8	0	0	0	0	15
Total	0	14	0	0	0	0	0	11	0	0	0	0	25
12:00	0	6	0	0	1	0	0	8	0	0	0	1	16
12:15	0	4	0	0	0	0	0	1	0	0	0	0	5
12:30	0	5	0	0	0	0	0	4	0	0	0	0	9
12:45	3	6	0	0	0	0	0	2	0	1	0	0	12
Total	3	21	0	0	1	0	0	15	0	1	0	1	42
13:00	0	17	0	0	0	0	0	2	0	1	0	0	20
13:15	0	0	0	0	0	0	0	2	0	0	0	0	2
Grand Total	3	52	0	0	1	0	0	30	0	2	0	1	89
Apprch %	5.5	94.5	0	0	100	0	0	100	0	66.7	0	33.3	
Total %	3.4	58.4	0	0	1.1	0	0	33.7	0	2.2	0	1.1	

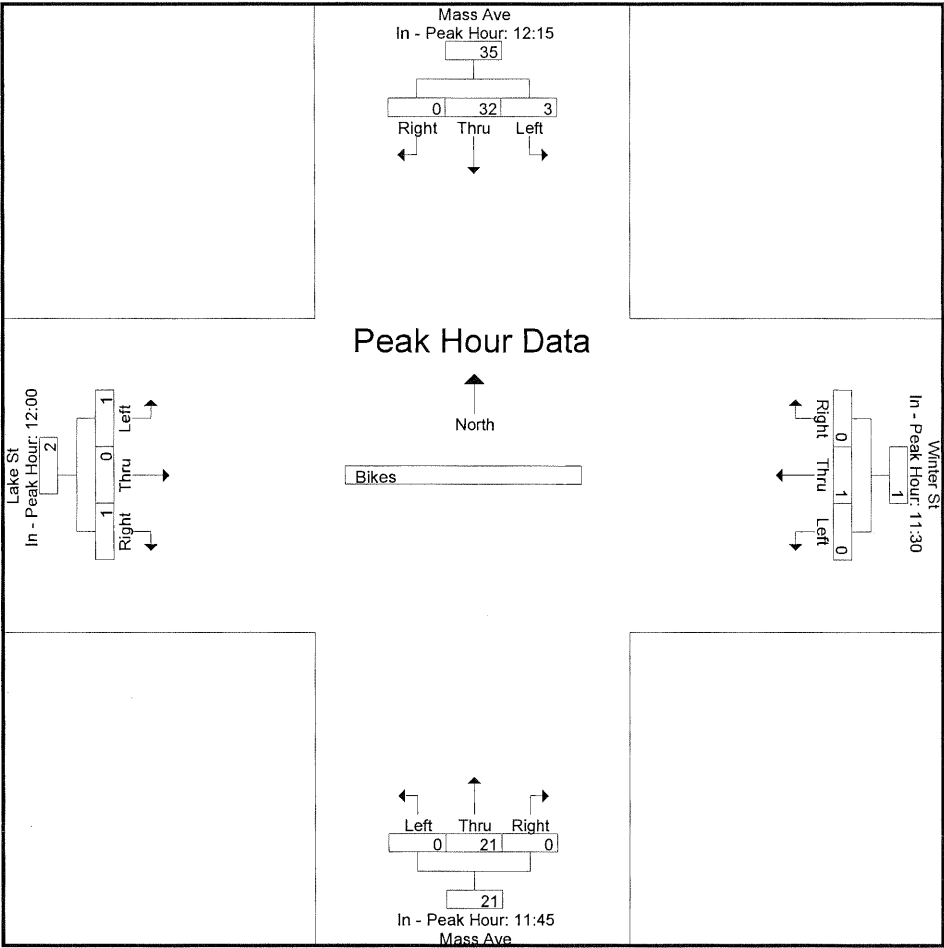
	Mass Ave From North				Winter St From East				Mass Ave From South				Lake St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30																	
11:30	0	7	0	7	0	0	0	0	0	3	0	3	0	0	0	0	10
11:45	0	7	0	7	0	0	0	0	0	8	0	8	0	0	0	0	15
12:00	0	6	0	6	0	1	0	1	0	8	0	8	0	0	1	1	16
12:15	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
Total Volume	0	24	0	24	0	1	0	1	0	20	0	20	0	0	1	1	46
% App. Total	0	100	0		0	100	0		0	100	0		0	0	100		
PHF	.000	.857	.000	.857	.000	.250	.000	.250	.000	.625	.000	.625	.000	.000	.250	.250	.719



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:15				11:30				11:45				12:00			
+0 mins.	0	4	0	4	0	0	0	0	0	8	0	8	0	0	1	1
+15 mins.	0	5	0	5	0	0	0	0	0	8	0	8	0	0	0	0
+30 mins.	3	6	0	9	0	1	0	1	0	1	0	1	0	0	0	0
+45 mins.	0	17	0	17	0	0	0	0	0	4	0	4	1	0	0	1
Total Volume	3	32	0	35	0	1	0	1	0	21	0	21	1	0	1	2
% App. Total	8.6	91.4	0		0	100	0		0	100	0		50	0	50	
PHF	.250	.471	.000	.515	.000	.250	.000	.250	.000	.656	.000	.656	.250	.000	.250	.500



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

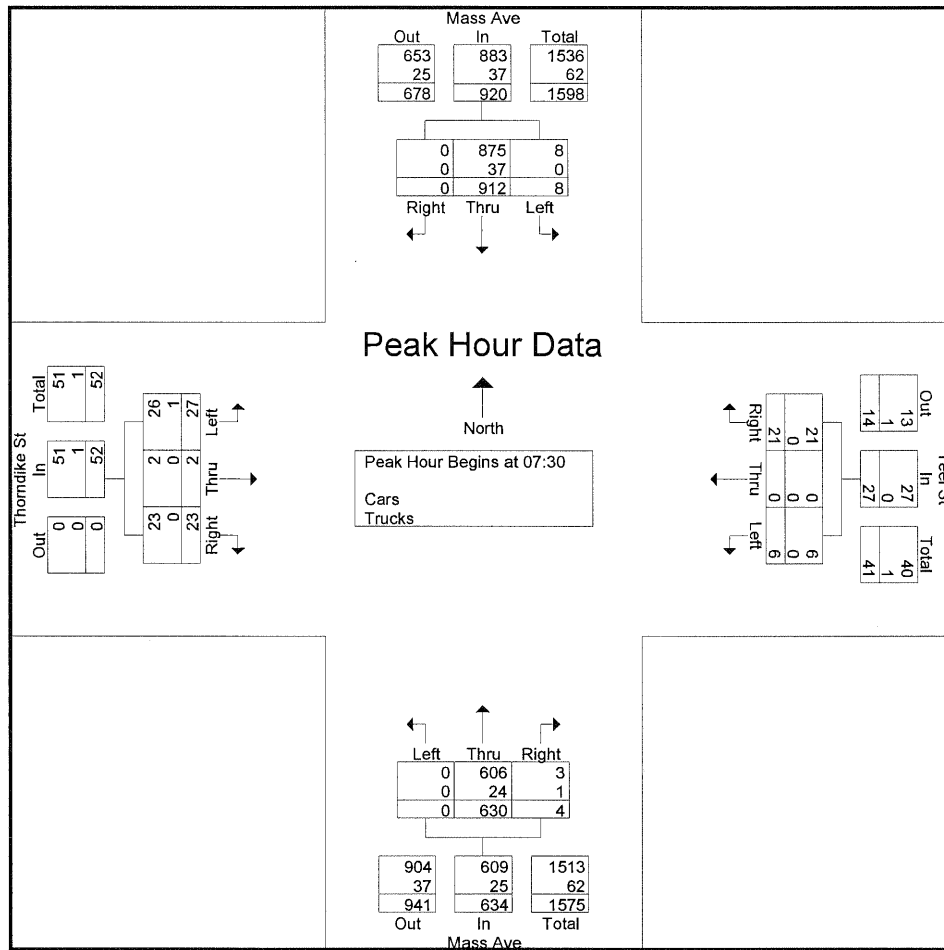
Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	2	170	0	4	0	4	0	82	0	2	1	2	267
07:15	1	227	0	1	0	2	0	119	1	8	0	7	366
07:30	1	222	0	3	0	5	0	153	0	5	0	7	396
07:45	0	235	0	1	0	3	0	153	2	6	0	2	402
Total	4	854	0	9	0	14	0	507	3	21	1	18	1431
08:00	4	268	0	2	0	8	0	163	1	10	2	8	466
08:15	3	187	0	0	0	5	0	161	1	6	0	6	369
08:30	6	190	0	3	0	5	0	149	1	6	0	4	364
08:45	3	205	0	2	0	4	0	163	3	1	0	5	386
Total	16	850	0	7	0	22	0	636	6	23	2	23	1585
Grand Total	20	1704	0	16	0	36	0	1143	9	44	3	41	3016
Apprch %	1.2	98.8	0	30.8	0	69.2	0	99.2	0.8	50	3.4	46.6	
Total %	0.7	56.5	0	0.5	0	1.2	0	37.9	0.3	1.5	0.1	1.4	
Cars	19	1634	0	16	0	35	0	1091	8	43	3	41	2890
% Cars	95	95.9	0	100	0	97.2	0	95.5	88.9	97.7	100	100	95.8
Trucks	1	70	0	0	0	1	0	52	1	1	0	0	126
% Trucks	5	4.1	0	0	0	2.8	0	4.5	11.1	2.3	0	0	4.2

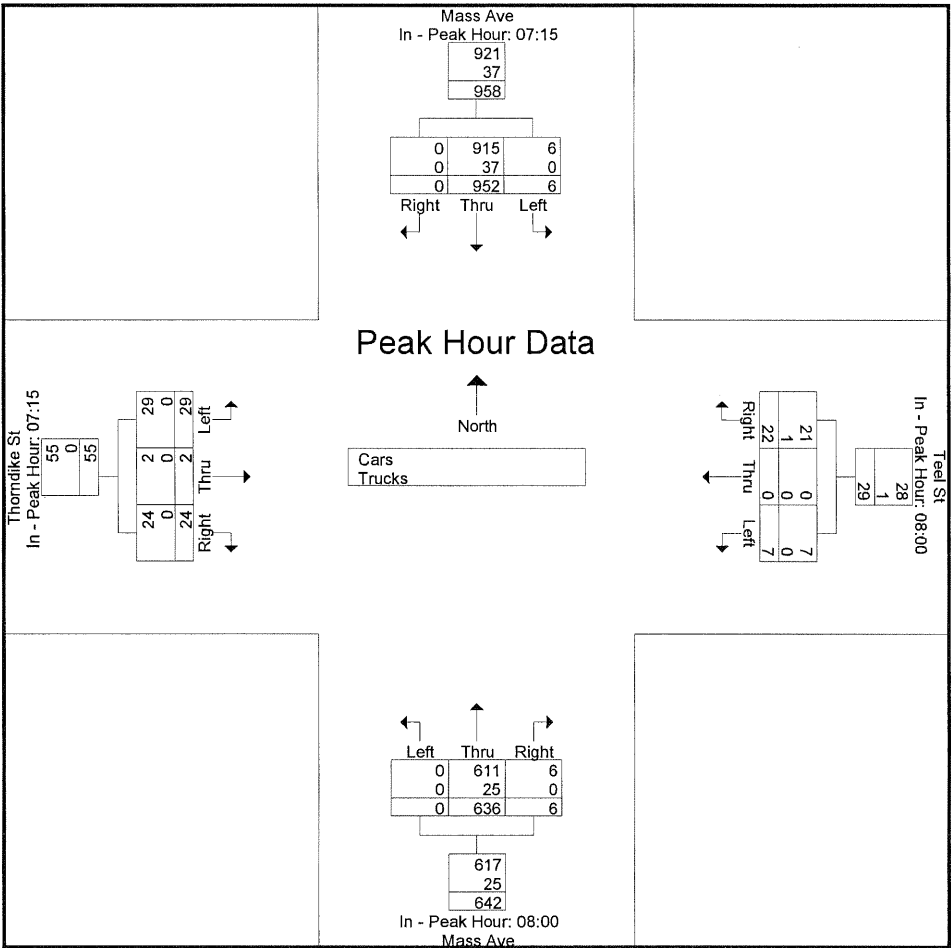
	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	1	222	0	223	3	0	5	8	0	153	0	153	5	0	7	12	396
07:45	0	235	0	235	1	0	3	4	0	153	2	155	6	0	2	8	402
08:00	4	268	0	272	2	0	8	10	0	163	1	164	10	2	8	20	466
08:15	3	187	0	190	0	0	5	5	0	161	1	162	6	0	6	12	369
Total Volume	8	912	0	920	6	0	21	27	0	630	4	634	27	2	23	52	1633
% App. Total	0.9	99.1	0		22.2	0	77.8		0	99.4	0.6		51.9	3.8	44.2		
PHF	.500	.851	.000	.846	.500	.000	.656	.675	.000	.966	.500	.966	.675	.250	.719	.650	.876
Cars	8	875	0	883	6	0	21	27	0	606	3	609	26	2	23	51	1570
% Cars	100	95.9	0	96.0	100	0	100	100	0	96.2	75.0	96.1	96.3	100	100	98.1	96.1
Trucks	0	37	0	37	0	0	0	0	0	24	1	25	1	0	0	1	63
% Trucks	0	4.1	0	4.0	0	0	0	0	0	3.8	25.0	3.9	3.7	0	0	1.9	3.9



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15				08:00				08:00				07:15			
+0 mins.	1	227	0	228	2	0	8	10	0	163	1	164	8	0	7	15
+15 mins.	1	222	0	223	0	0	5	5	0	161	1	162	5	0	7	12
+30 mins.	0	235	0	235	3	0	5	8	0	149	1	150	6	0	2	8
+45 mins.	4	268	0	272	2	0	4	6	0	163	3	166	10	2	8	20
Total Volume	6	952	0	958	7	0	22	29	0	636	6	642	29	2	24	55
% App. Total	0.6	99.4	0		24.1	0	75.9		0	99.1	0.9		52.7	3.6	43.6	
PHF	.375	.888	.000	.881	.583	.000	.688	.725	.000	.975	.500	.967	.725	.250	.750	.688
Cars	6	915	0	921	7	0	21	28	0	611	6	617	29	2	24	55
% Cars	100	96.1	0	96.1	100	0	95.5	96.6	0	96.1	100	96.1	100	100	100	100
Trucks	0	37	0	37	0	0	1	1	0	25	0	25	0	0	0	0
% Trucks	0	3.9	0	3.9	0	0	4.5	3.4	0	3.9	0	3.9	0	0	0	0



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

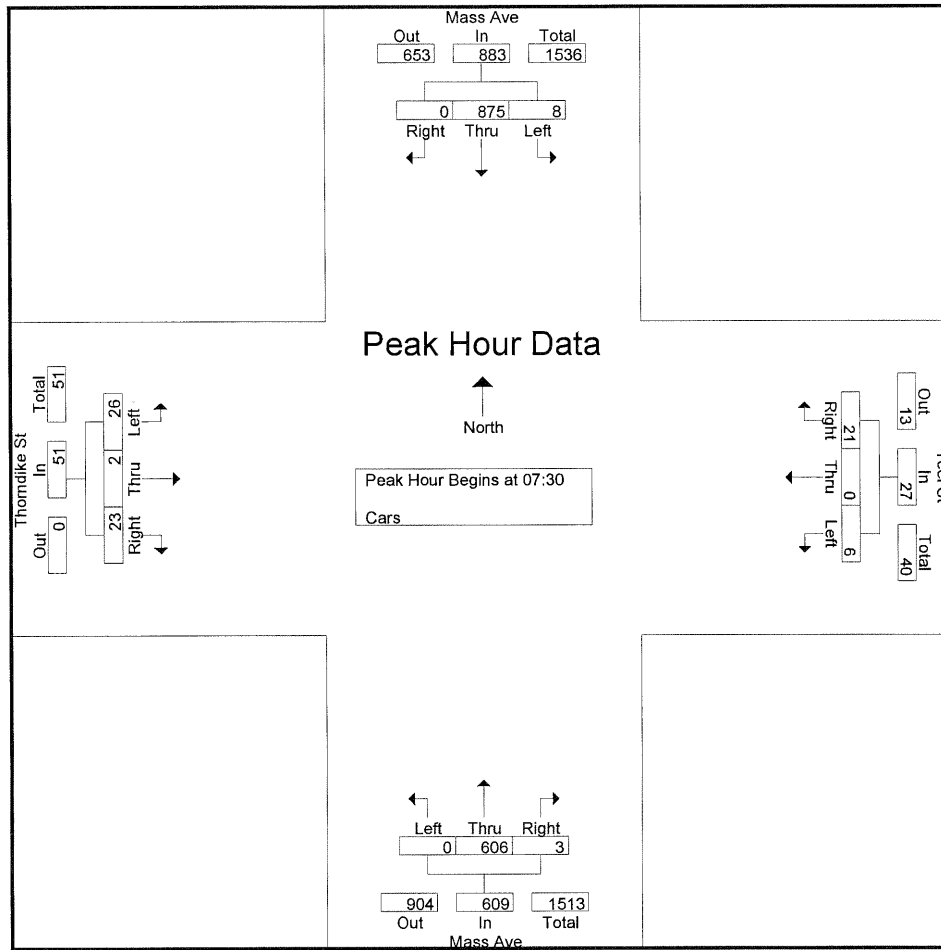
Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

Start Time	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	2	163	0	4	0	4	0	76	0	2	1	2	254
07:15	1	216	0	1	0	2	0	110	1	8	0	7	346
07:30	1	214	0	3	0	5	0	149	0	5	0	7	384
07:45	0	226	0	1	0	3	0	145	1	6	0	2	384
Total	4	819	0	9	0	14	0	480	2	21	1	18	1368
08:00	4	259	0	2	0	8	0	155	1	10	2	8	449
08:15	3	176	0	0	0	5	0	157	1	5	0	6	353
08:30	5	181	0	3	0	4	0	144	1	6	0	4	348
08:45	3	199	0	2	0	4	0	155	3	1	0	5	372
Total	15	815	0	7	0	21	0	611	6	22	2	23	1522
Grand Total	19	1634	0	16	0	35	0	1091	8	43	3	41	2890
Apprch %	1.1	98.9	0	31.4	0	68.6	0	99.3	0.7	49.4	3.4	47.1	
Total %	0.7	56.5	0	0.6	0	1.2	0	37.8	0.3	1.5	0.1	1.4	

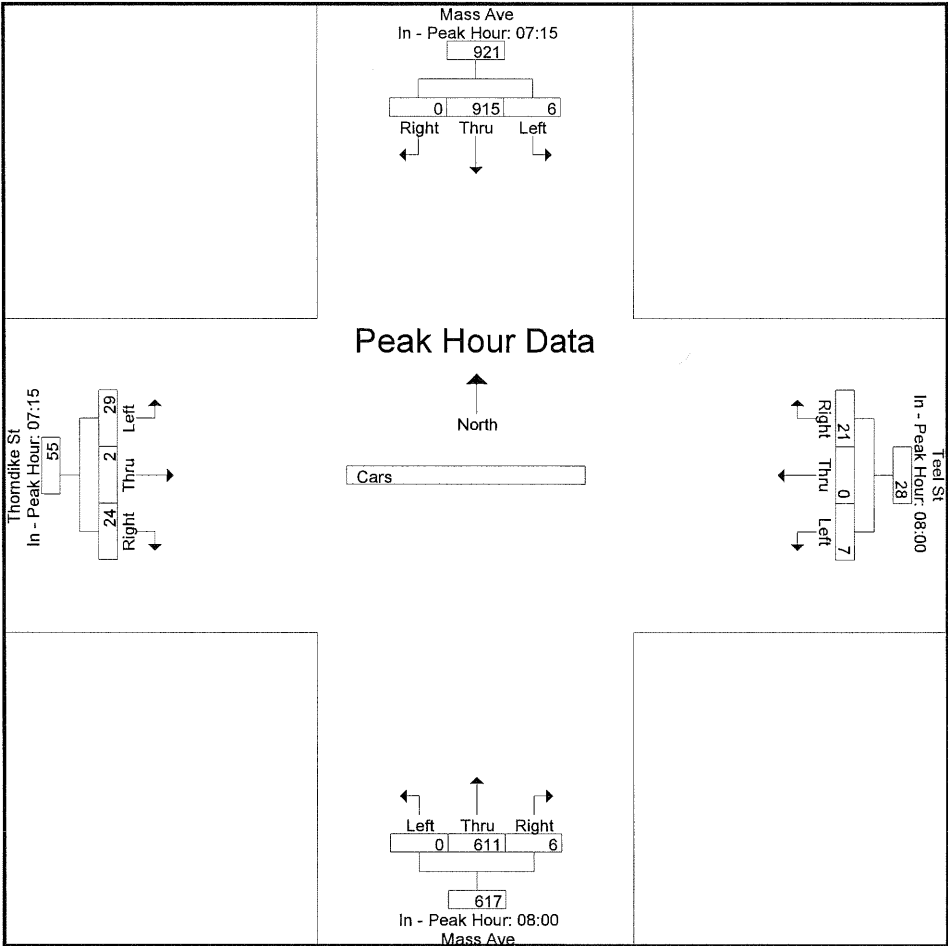
	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	1	214	0	215	3	0	5	8	0	149	0	149	5	0	7	12	384
07:45	0	226	0	226	1	0	3	4	0	145	1	146	6	0	2	8	384
08:00	4	259	0	263	2	0	8	10	0	155	1	156	10	2	8	20	449
08:15	3	176	0	179	0	0	5	5	0	157	1	158	5	0	6	11	353
Total Volume	8	875	0	883	6	0	21	27	0	606	3	609	26	2	23	51	1570
% App. Total	0.9	99.1	0		22.2	0	77.8		0	99.5	0.5		51	3.9	45.1		
PHF	.500	.845	.000	.839	.500	.000	.656	.675	.000	.965	.750	.964	.650	.250	.719	.638	.874



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15				08:00				08:00				07:15			
+0 mins.	1	216	0	217	2	0	8	10	0	155	1	156	8	0	7	15
+15 mins.	1	214	0	215	0	0	5	5	0	157	1	158	5	0	7	12
+30 mins.	0	226	0	226	3	0	4	7	0	144	1	145	6	0	2	8
+45 mins.	4	259	0	263	2	0	4	6	0	155	3	158	10	2	8	20
Total Volume	6	915	0	921	7	0	21	28	0	611	6	617	29	2	24	55
% App. Total	0.7	99.3	0		25	0	75		0	99	1		52.7	3.6	43.6	
PHF	.375	.883	.000	.875	.583	.000	.656	.700	.000	.973	.500	.976	.725	.250	.750	.688



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

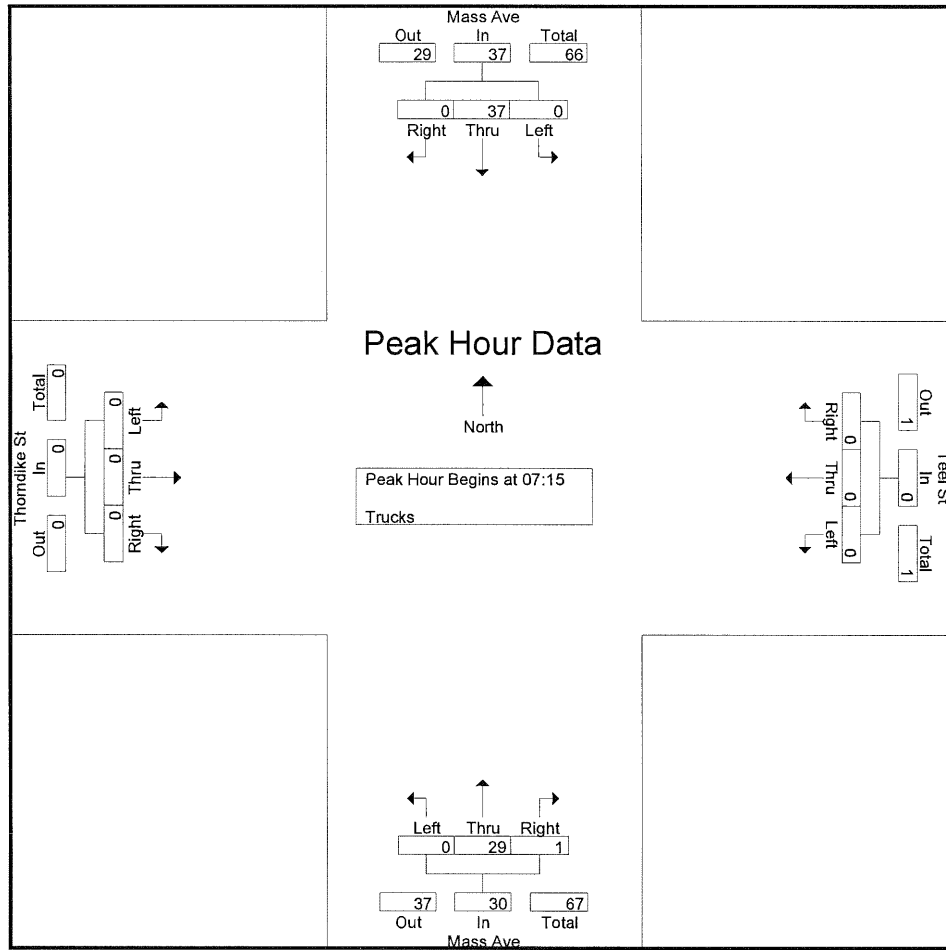
Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Trucks

Start Time	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	7	0	0	0	0	0	6	0	0	0	0	13
07:15	0	11	0	0	0	0	0	9	0	0	0	0	20
07:30	0	8	0	0	0	0	0	4	0	0	0	0	12
07:45	0	9	0	0	0	0	0	8	1	0	0	0	18
Total	0	35	0	0	0	0	0	27	1	0	0	0	63
08:00	0	9	0	0	0	0	0	8	0	0	0	0	17
08:15	0	11	0	0	0	0	0	4	0	1	0	0	16
08:30	1	9	0	0	0	1	0	5	0	0	0	0	16
08:45	0	6	0	0	0	0	0	8	0	0	0	0	14
Total	1	35	0	0	0	1	0	25	0	1	0	0	63
Grand Total	1	70	0	0	0	1	0	52	1	1	0	0	126
Apprch %	1.4	98.6	0	0	0	100	0	98.1	1.9	100	0	0	
Total %	0.8	55.6	0	0	0	0.8	0	41.3	0.8	0.8	0	0	

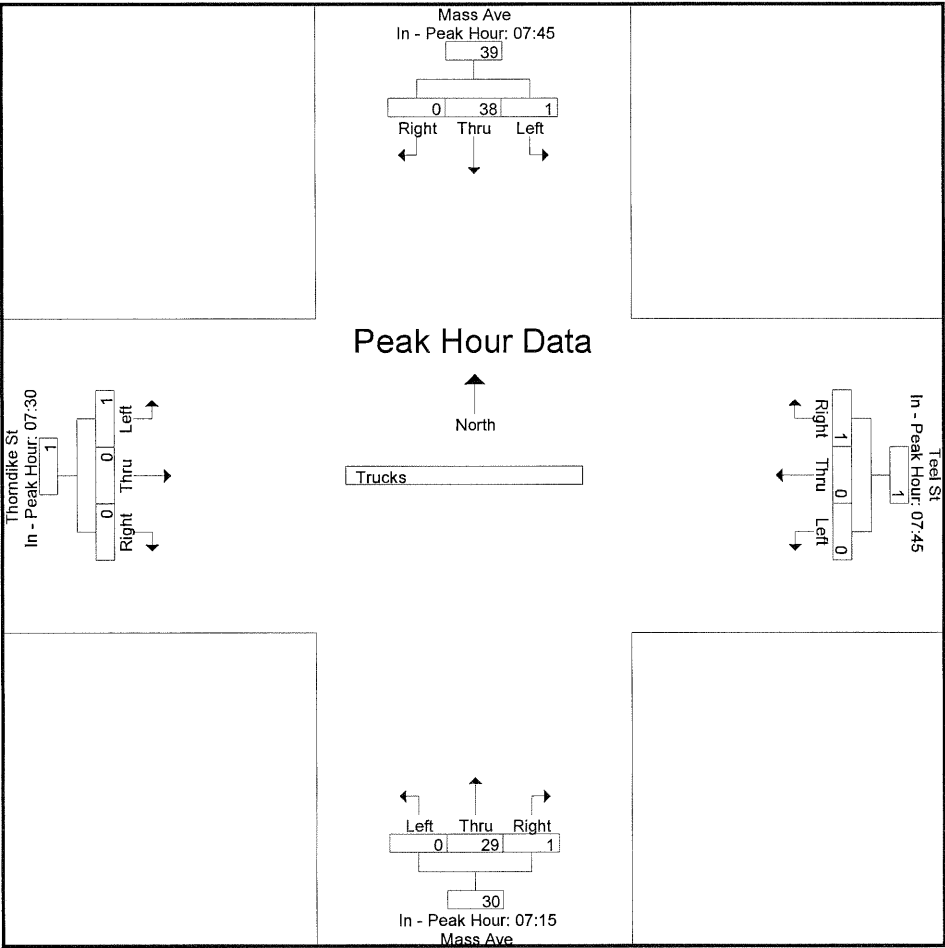
	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	11	0	11	0	0	0	0	0	9	0	9	0	0	0	0	20
07:30	0	8	0	8	0	0	0	0	0	4	0	4	0	0	0	0	12
07:45	0	9	0	9	0	0	0	0	0	8	1	9	0	0	0	0	18
08:00	0	9	0	9	0	0	0	0	0	8	0	8	0	0	0	0	17
Total Volume	0	37	0	37	0	0	0	0	0	29	1	30	0	0	0	0	67
% App. Total	0	100	0		0	0	0		0	96.7	3.3		0	0	0		
PHF	.000	.841	.000	.841	.000	.000	.000	.000	.000	.806	.250	.833	.000	.000	.000	.000	.838



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45				07:45				07:15				07:30			
+0 mins.	0	9	0	9	0	0	0	0	0	9	0	9	0	0	0	0
+15 mins.	0	9	0	9	0	0	0	0	0	4	0	4	0	0	0	0
+30 mins.	0	11	0	11	0	0	0	0	0	8	1	9	0	0	0	0
+45 mins.	1	9	0	10	0	0	1	1	0	8	0	8	1	0	0	1
Total Volume	1	38	0	39	0	0	1	1	0	29	1	30	1	0	0	1
% App. Total	2.6	97.4	0		0	0	100		0	96.7	3.3		100	0	0	
PHF	.250	.864	.000	.886	.000	.000	.250	.250	.000	.806	.250	.833	.250	.000	.000	.250



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

	Mass Ave From North		Teel St From East		Mass Ave From South		Thorndike St From West		
Start Time	WB	EB	NB	SB	EB	WB	SB	NB	Int. Total
07:00	5	2	0	2	2	0	0	1	12
07:15	1	0	0	0	4	4	4	0	13
07:30	3	1	0	0	1	1	0	0	6
07:45	1	1	0	0	1	10	0	0	13
Total	10	4	0	2	8	15	4	1	44
08:00	0	1	0	1	1	9	1	0	13
08:15	0	1	0	0	0	3	2	0	6
08:30	0	0	0	0	3	1	1	0	5
08:45	0	1	0	1	0	7	2	0	11
Total	0	3	0	2	4	20	6	0	35
Grand Total	10	7	0	4	12	35	10	1	79
Apprch %	58.8	41.2	0	100	25.5	74.5	90.9	9.1	
Total %	12.7	8.9	0	5.1	15.2	44.3	12.7	1.3	

	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15													
07:15	1	0	1	0	0	0	4	4	8	4	0	4	13
07:30	3	1	4	0	0	0	1	1	2	0	0	0	6
07:45	1	1	2	0	0	0	1	10	11	0	0	0	13
08:00	0	1	1	0	1	1	1	9	10	1	0	1	13
→ Total Volume	5	3	8	0	1	1	7	24	31	5	0	5	45
% App. Total	62.5	37.5		0	100		22.6	77.4		100	0		
PHF	.417	.750	.500	.000	.250	.250	.438	.600	.705	.313	.000	.313	.865

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00			07:00			07:15			08:00		
+0 mins.	5	2	7	0	2	2	4	4	8	1	0	1
+15 mins.	1	0	1	0	0	0	1	1	2	2	0	2
+30 mins.	3	1	4	0	0	0	1	10	11	1	0	1
+45 mins.	1	1	2	0	0	0	1	9	10	2	0	2
Total Volume	10	4	14	0	2	2	7	24	31	6	0	6
% App. Total	71.4	28.6		0	100		22.6	77.4		100	0	
PHF	.500	.500	.500	.000	.250	.250	.438	.600	.705	.750	.000	.750

N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

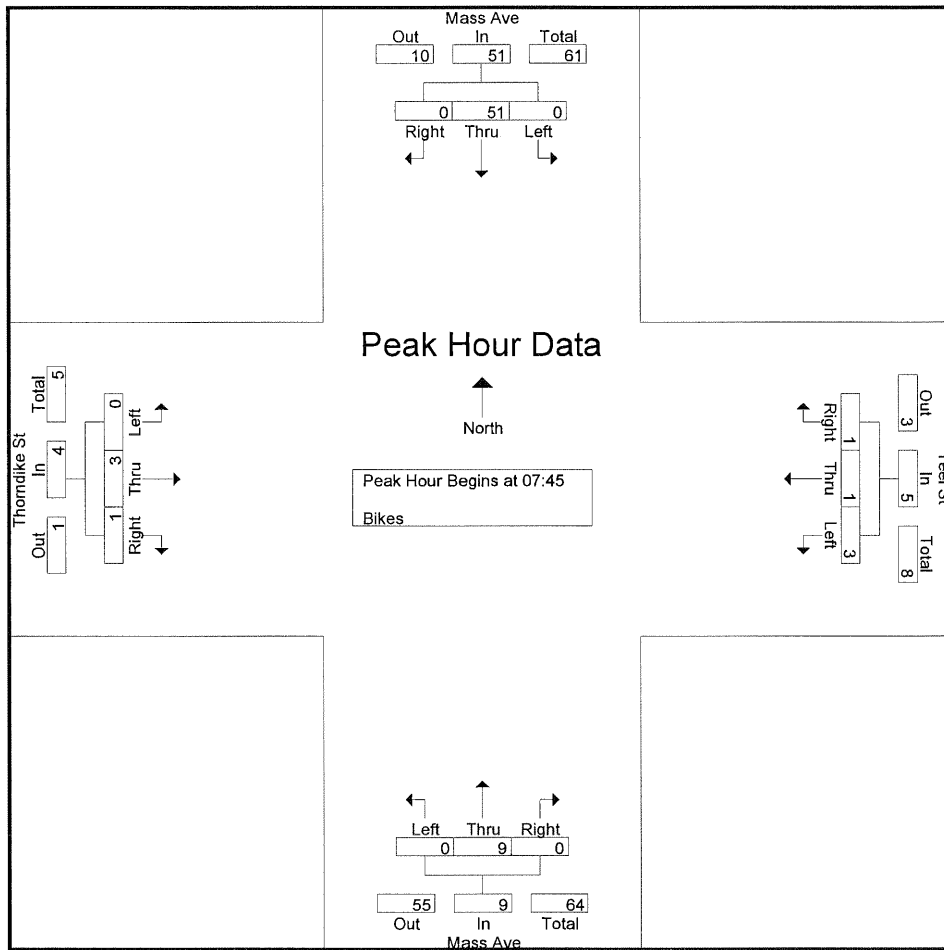
Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	4	0	0	1	0	0	2	0	0	0	1	8
07:15	0	13	0	0	0	0	0	6	0	0	0	0	19
07:30	0	3	0	0	0	0	0	2	0	0	0	0	5
07:45	0	15	0	0	0	0	0	2	0	0	0	1	18
Total	0	35	0	0	1	0	0	12	0	0	0	2	50
08:00	0	10	0	2	0	0	0	3	0	0	0	0	15
08:15	0	17	0	1	1	1	0	4	0	0	1	0	25
08:30	0	9	0	0	0	0	0	0	0	0	2	0	11
08:45	0	6	0	0	0	0	0	1	0	0	0	0	7
Total	0	42	0	3	1	1	0	8	0	0	3	0	58
Grand Total	0	77	0	3	2	1	0	20	0	0	3	2	108
Apprch %	0	100	0	50	33.3	16.7	0	100	0	0	60	40	
Total %	0	71.3	0	2.8	1.9	0.9	0	18.5	0	0	2.8	1.9	

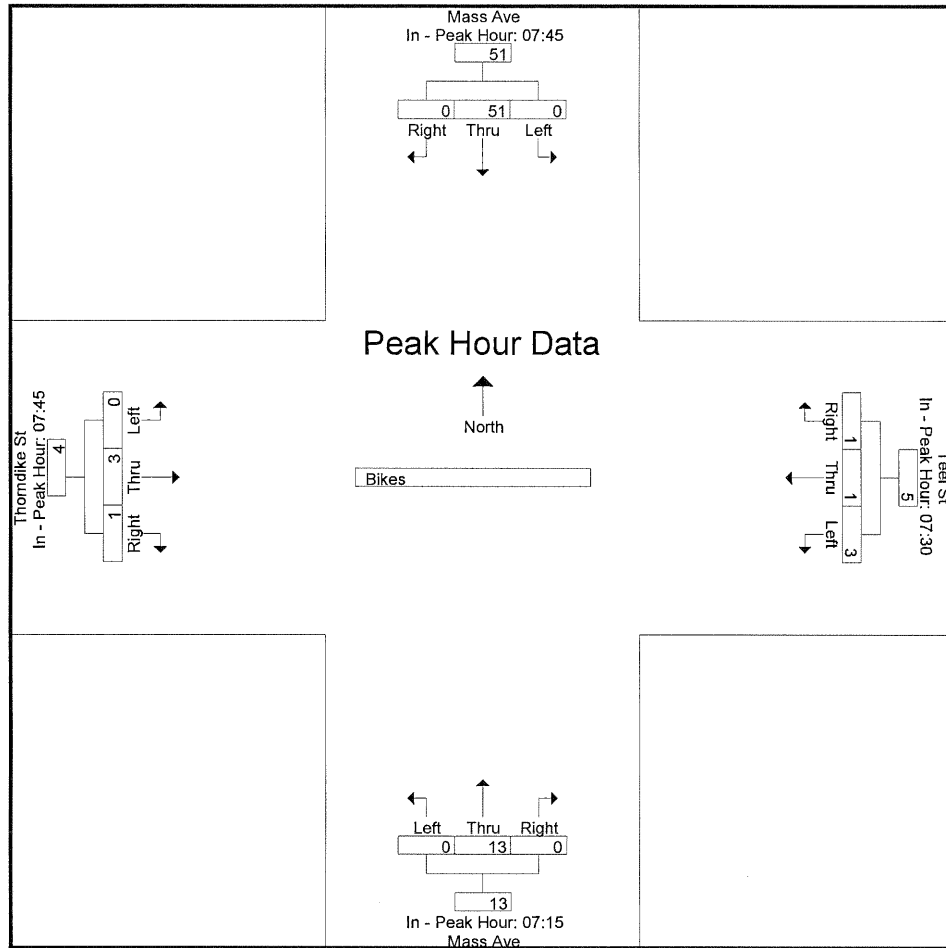
	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	0	15	0	15	0	0	0	0	0	2	0	2	0	0	0	1	18
08:00	0	10	0	10	2	0	0	2	0	3	0	3	0	0	0	0	15
08:15	0	17	0	17	1	1	1	3	0	4	0	4	0	1	0	1	25
08:30	0	9	0	9	0	0	0	0	0	0	0	0	0	2	0	2	11
Total Volume	0	51	0	51	3	1	1	5	0	9	0	9	0	3	1	4	69
% App. Total	0	100	0		60	20	20		0	100	0		0	75	25		
PHF	.000	.750	.000	.750	.375	.250	.250	.417	.000	.563	.000	.563	.000	.375	.250	.500	.690



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45				07:30				07:15				07:45			
+0 mins.	0	15	0	15	0	0	0	0	0	6	0	6	0	0	1	1
+15 mins.	0	10	0	10	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	17	0	17	2	0	0	2	0	2	0	2	0	1	0	1
+45 mins.	0	9	0	9	1	1	1	3	0	3	0	3	0	2	0	2
Total Volume	0	51	0	51	3	1	1	5	0	13	0	13	0	3	1	4
% App. Total	0	100	0		60	20	20		0	100	0		0	75	25	
PHF	.000	.750	.000	.750	.375	.250	.250	.417	.000	.542	.000	.542	.000	.375	.250	.500



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

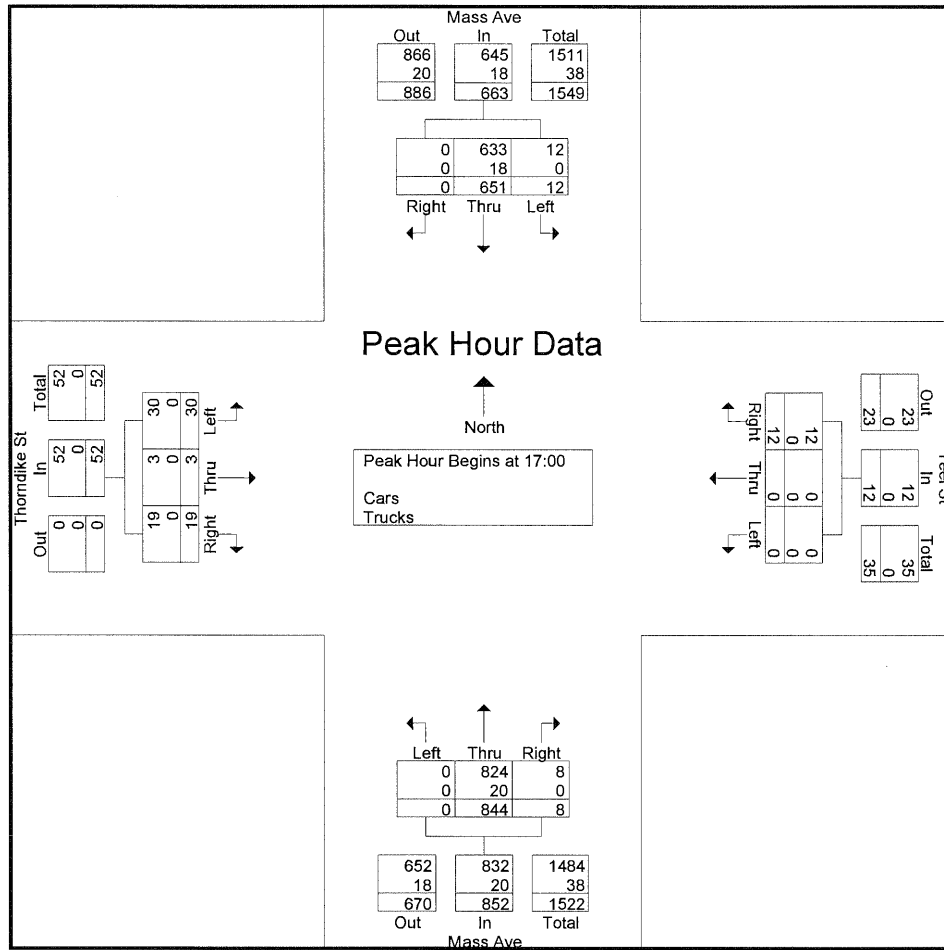
Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars - Trucks

	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	117	1	0	0	0	1	133	1	3	0	2	258
16:15	0	151	0	0	0	0	0	178	0	4	0	1	334
16:30	4	151	0	0	0	4	0	164	3	6	2	3	337
16:45	1	161	0	0	0	2	0	197	1	6	0	3	371
Total	5	580	1	0	0	6	1	672	5	19	2	9	1300
17:00	2	157	0	0	0	6	0	215	2	8	1	3	394
17:15	4	145	0	0	0	3	0	210	1	4	1	6	374
17:30	2	171	0	0	0	1	0	228	2	8	1	4	417
17:45	4	178	0	0	0	2	0	191	3	10	0	6	394
Total	12	651	0	0	0	12	0	844	8	30	3	19	1579
Grand Total	17	1231	1	0	0	18	1	1516	13	49	5	28	2879
Apprch %	1.4	98.6	0.1	0	0	100	0.1	99.1	0.8	59.8	6.1	34.1	
Total %	0.6	42.8	0	0	0	0.6	0	52.7	0.5	1.7	0.2	1	
Cars	16	1193	1	0	0	18	1	1468	12	49	5	28	2791
% Cars	94.1	96.9	100	0	0	100	100	96.8	92.3	100	100	100	96.9
Trucks	1	38	0	0	0	0	0	48	1	0	0	0	88
% Trucks	5.9	3.1	0	0	0	0	0	3.2	7.7	0	0	0	3.1

	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	2	157	0	159	0	0	6	6	0	215	2	217	8	1	3	12	394
17:15	4	145	0	149	0	0	3	3	0	210	1	211	4	1	6	11	374
17:30	2	171	0	173	0	0	1	1	0	228	2	230	8	1	4	13	417
17:45	4	178	0	182	0	0	2	2	0	191	3	194	10	0	6	16	394
Total Volume	12	651	0	663	0	0	12	12	0	844	8	852	30	3	19	52	1579
% App. Total	1.8	98.2	0		0	0	100		0	99.1	0.9		57.7	5.8	36.5		
PHF	.750	.914	.000	.911	.000	.000	.500	.500	.000	.925	.667	.926	.750	.750	.792	.813	.947
Cars	12	633	0	645	0	0	12	12	0	824	8	832	30	3	19	52	1541
% Cars	100	97.2	0	97.3	0	0	100	100	0	97.6	100	97.7	100	100	100	100	97.6
Trucks	0	18	0	18	0	0	0	0	0	20	0	20	0	0	0	0	38
% Trucks	0	2.8	0	2.7	0	0	0	0	0	2.4	0	2.3	0	0	0	0	2.4



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

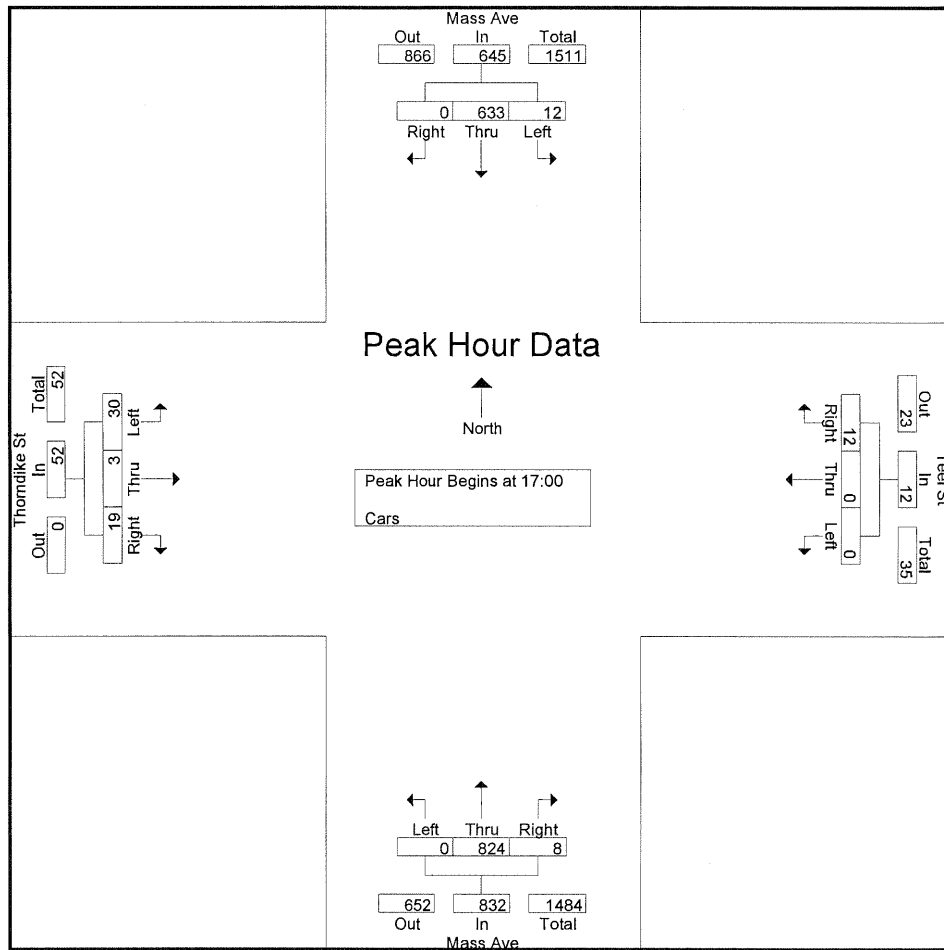
Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

Start Time	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	111	1	0	0	0	1	128	0	3	0	2	246
16:15	0	144	0	0	0	0	0	171	0	4	0	1	320
16:30	3	148	0	0	0	4	0	158	3	6	2	3	327
16:45	1	157	0	0	0	2	0	187	1	6	0	3	357
Total	4	560	1	0	0	6	1	644	4	19	2	9	1250
17:00	2	153	0	0	0	6	0	211	2	8	1	3	386
17:15	4	142	0	0	0	3	0	206	1	4	1	6	367
17:30	2	165	0	0	0	1	0	218	2	8	1	4	401
17:45	4	173	0	0	0	2	0	189	3	10	0	6	387
Total	12	633	0	0	0	12	0	824	8	30	3	19	1541
Grand Total	16	1193	1	0	0	18	1	1468	12	49	5	28	2791
Apprch %	1.3	98.6	0.1	0	0	100	0.1	99.1	0.8	59.8	6.1	34.1	
Total %	0.6	42.7	0	0	0	0.6	0	52.6	0.4	1.8	0.2	1	

	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	2	153	0	155	0	0	6	6	0	211	2	213	8	1	3	12	386
17:15	4	142	0	146	0	0	3	3	0	206	1	207	4	1	6	11	367
17:30	2	165	0	167	0	0	1	1	0	218	2	220	8	1	4	13	401
17:45	4	173	0	177	0	0	2	2	0	189	3	192	10	0	6	16	387
Total Volume	12	633	0	645	0	0	12	12	0	824	8	832	30	3	19	52	1541
% App. Total	1.9	98.1	0		0	0	100		0	99	1		57.7	5.8	36.5		
PHF	.750	.915	.000	.911	.000	.000	.500	.500	.000	.945	.667	.945	.750	.750	.792	.813	.961



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

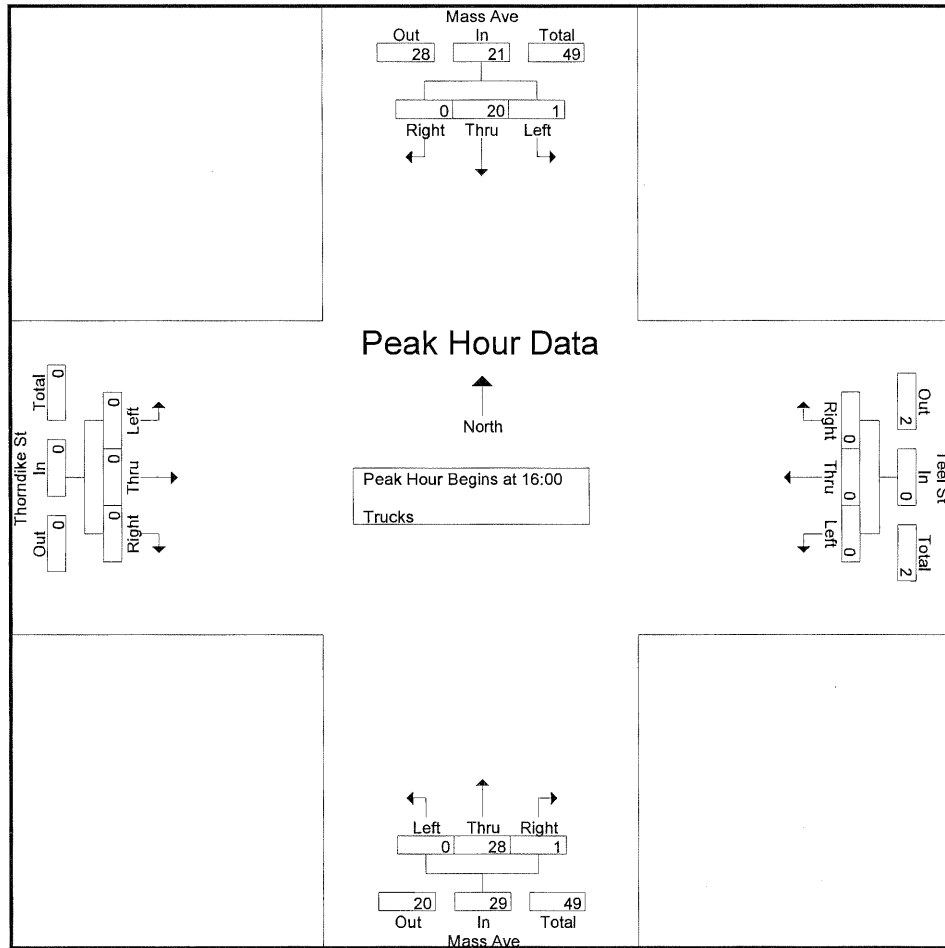
Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Trucks

Start Time	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	6	0	0	0	0	0	5	1	0	0	0	12
16:15	0	7	0	0	0	0	0	7	0	0	0	0	14
16:30	1	3	0	0	0	0	0	6	0	0	0	0	10
16:45	0	4	0	0	0	0	0	10	0	0	0	0	14
Total	1	20	0	0	0	0	0	28	1	0	0	0	50
17:00	0	4	0	0	0	0	0	4	0	0	0	0	8
17:15	0	3	0	0	0	0	0	4	0	0	0	0	7
17:30	0	6	0	0	0	0	0	10	0	0	0	0	16
17:45	0	5	0	0	0	0	0	2	0	0	0	0	7
Total	0	18	0	0	0	0	0	20	0	0	0	0	38
Grand Total	1	38	0	0	0	0	0	48	1	0	0	0	88
Apprch %	2.6	97.4	0	0	0	0	0	98	2	0	0	0	
Total %	1.1	43.2	0	0	0	0	0	54.5	1.1	0	0	0	

	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	6	0	6	0	0	0	0	0	5	1	6	0	0	0	0	12
16:15	0	7	0	7	0	0	0	0	0	7	0	7	0	0	0	0	14
16:30	1	3	0	4	0	0	0	0	0	6	0	6	0	0	0	0	10
16:45	0	4	0	4	0	0	0	0	0	10	0	10	0	0	0	0	14
Total Volume	1	20	0	21	0	0	0	0	0	28	1	29	0	0	0	0	50
% App. Total	4.8	95.2	0		0	0	0		0	96.6	3.4		0	0	0		
PHF	.250	.714	.000	.750	.000	.000	.000	.000	.000	.700	.250	.725	.000	.000	.000	.000	.893



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

	Mass Ave From North		Teel St From East		Mass Ave From South		Thorndike St From West		
Start Time	WB	EB	NB	SB	EB	WB	SB	NB	Int. Total
16:00	0	0	0	0	2	0	0	0	2
16:15	1	0	1	0	1	4	0	1	8
16:30	0	2	1	0	1	1	2	0	7
16:45	0	4	1	0	5	3	2	2	17
Total	1	6	3	0	9	8	4	3	34
17:00	0	1	2	0	0	2	1	1	7
17:15	2	1	1	1	0	0	2	0	7
17:30	0	2	0	0	1	7	2	1	13
17:45	1	0	0	1	2	0	0	1	5
Total	3	4	3	2	3	9	5	3	32
Grand Total	4	10	6	2	12	17	9	6	66
Apprch %	28.6	71.4	75	25	41.4	58.6	60	40	
Total %	6.1	15.2	9.1	3	18.2	25.8	13.6	9.1	

	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 16:45													
16:45	0	4	4	1	0	1	5	3	8	2	2	4	17
17:00	0	1	1	2	0	2	0	2	2	1	1	2	7
17:15	2	1	3	1	1	2	0	0	0	2	0	2	7
17:30	0	2	2	0	0	0	1	7	8	2	1	3	13
Total Volume	2	8	10	4	1	5	6	12	18	7	4	11	44
% App. Total	20	80		80	20		33.3	66.7		63.6	36.4		
PHF	.250	.500	.625	.500	.250	.625	.300	.429	.563	.875	.500	.688	.647

N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

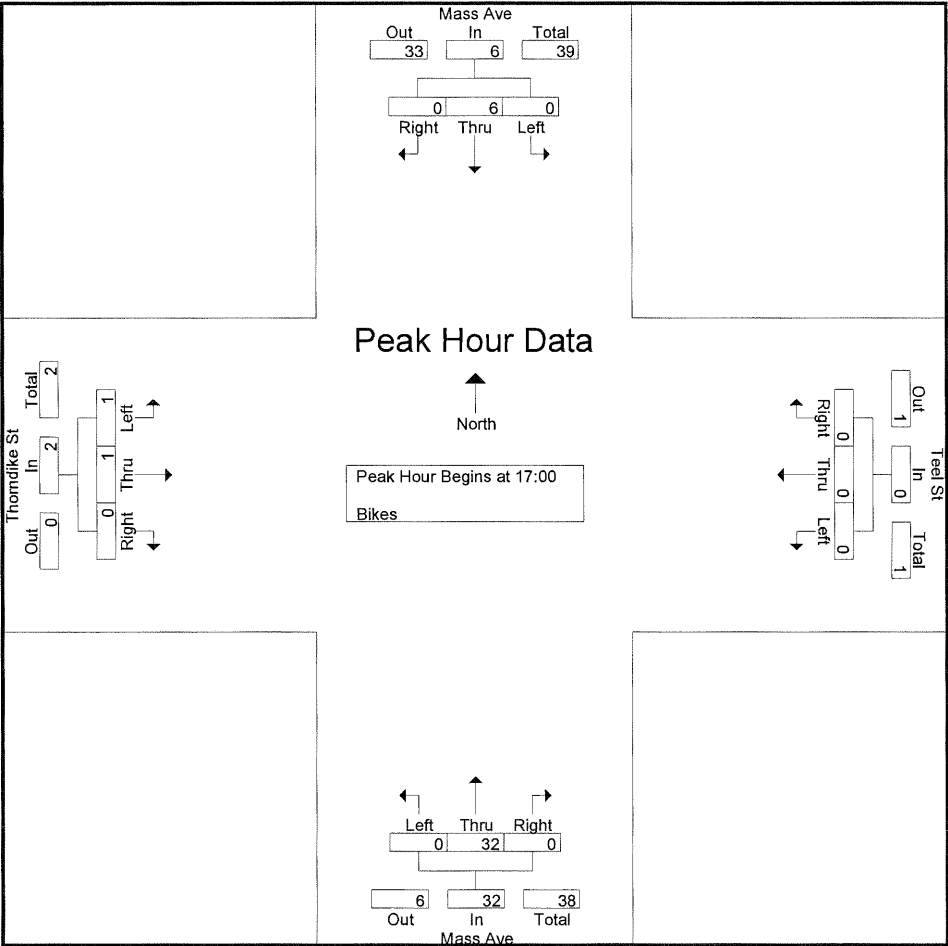
Accurate Counts
 978-664-2565

File Name : 013000A5
 Site Code : 01300005
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	1	1	0	0	0	0	3	0	0	0	0	5
16:15	0	0	0	0	0	0	0	6	0	0	1	0	7
16:30	0	0	0	0	0	0	0	8	1	0	1	0	10
16:45	0	1	0	0	0	0	0	5	0	0	0	0	6
Total	0	2	1	0	0	0	0	22	1	0	2	0	28
17:00	0	0	0	0	0	0	0	6	0	0	0	0	6
17:15	0	2	0	0	0	0	0	3	0	0	0	0	5
17:30	0	3	0	0	0	0	0	10	0	0	1	0	14
17:45	0	1	0	0	0	0	0	13	0	1	0	0	15
Total	0	6	0	0	0	0	0	32	0	1	1	0	40
Grand Total	0	8	1	0	0	0	0	54	1	1	3	0	68
Apprch %	0	88.9	11.1	0	0	0	0	98.2	1.8	25	75	0	
Total %	0	11.8	1.5	0	0	0	0	79.4	1.5	1.5	4.4	0	

	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	6
17:15	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
17:30	0	3	0	3	0	0	0	0	0	10	0	10	0	1	0	1	14
17:45	0	1	0	1	0	0	0	0	0	13	0	13	1	0	0	1	15
Total Volume	0	6	0	6	0	0	0	0	0	32	0	32	1	1	0	2	40
% App. Total	0	100	0		0	0	0		0	100	0		50	50	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.615	.000	.615	.250	.250	.000	.500	.667



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300005
 Site Code : 01300005
 Start Date : 10/18/2008
 Page No : 1

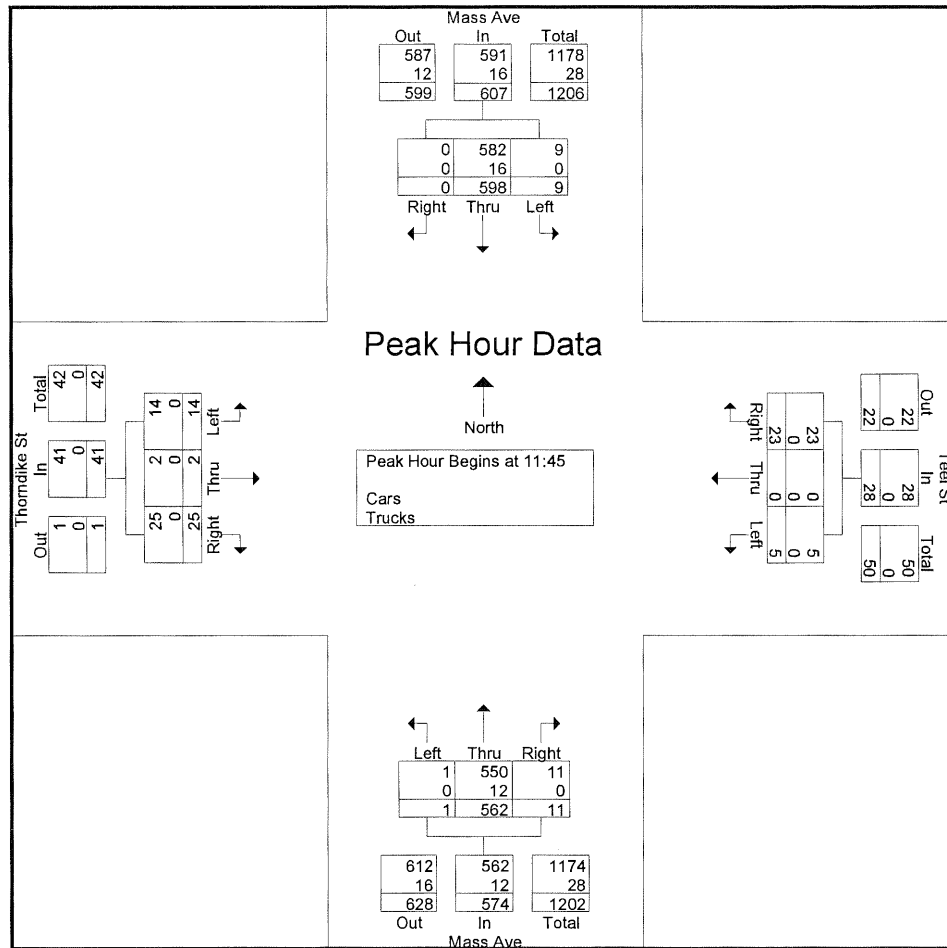
Groups Printed- Cars - Trucks

Start Time	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	2	128	0	2	0	2	0	143	2	3	0	4	286
11:45	1	148	0	0	0	1	0	151	2	2	1	4	310
Total	3	276	0	2	0	3	0	294	4	5	1	8	596
12:00	3	154	0	0	0	6	0	146	2	5	1	5	322
12:15	2	145	0	3	0	8	0	134	2	6	0	12	312
12:30	3	151	0	2	0	8	1	131	5	1	0	4	306
12:45	1	124	0	3	0	6	0	162	3	2	0	5	306
Total	9	574	0	8	0	28	1	573	12	14	1	26	1246
13:00	2	153	0	3	0	0	0	149	3	6	0	4	320
13:15	4	137	0	0	0	3	0	158	1	4	1	6	314
Grand Total	18	1140	0	13	0	34	1	1174	20	29	3	44	2476
Apprch %	1.6	98.4	0	27.7	0	72.3	0.1	98.2	1.7	38.2	3.9	57.9	
Total %	0.7	46	0	0.5	0	1.4	0	47.4	0.8	1.2	0.1	1.8	
Cars	18	1112	0	12	0	34	1	1150	20	29	3	43	2422
% Cars	100	97.5	0	92.3	0	100	100	98	100	100	100	97.7	97.8
Trucks	0	28	0	1	0	0	0	24	0	0	0	1	54
% Trucks	0	2.5	0	7.7	0	0	0	2	0	0	0	2.3	2.2

	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45																	
11:45	1	148	0	149	0	0	1	1	0	151	2	153	2	1	4	7	310
12:00	3	154	0	157	0	0	6	6	0	146	2	148	5	1	5	11	322
12:15	2	145	0	147	3	0	8	11	0	134	2	136	6	0	12	18	312
12:30	3	151	0	154	2	0	8	10	1	131	5	137	1	0	4	5	306
Total Volume	9	598	0	607	5	0	23	28	1	562	11	574	14	2	25	41	1250
% App. Total	1.5	98.5	0		17.9	0	82.1		0.2	97.9	1.9		34.1	4.9	61		
PHF	.750	.971	.000	.967	.417	.000	.719	.636	.250	.930	.550	.938	.583	.500	.521	.569	.970
Cars	9	582	0	591	5	0	23	28	1	550	11	562	14	2	25	41	1222
% Cars	100	97.3	0	97.4	100	0	100	100	100	97.9	100	97.9	100	100	100	100	97.8
Trucks	0	16	0	16	0	0	0	0	0	12	0	12	0	0	0	0	28
% Trucks	0	2.7	0	2.6	0	0	0	0	0	2.1	0	2.1	0	0	0	0	2.2

Accurate Counts
978-664-2565

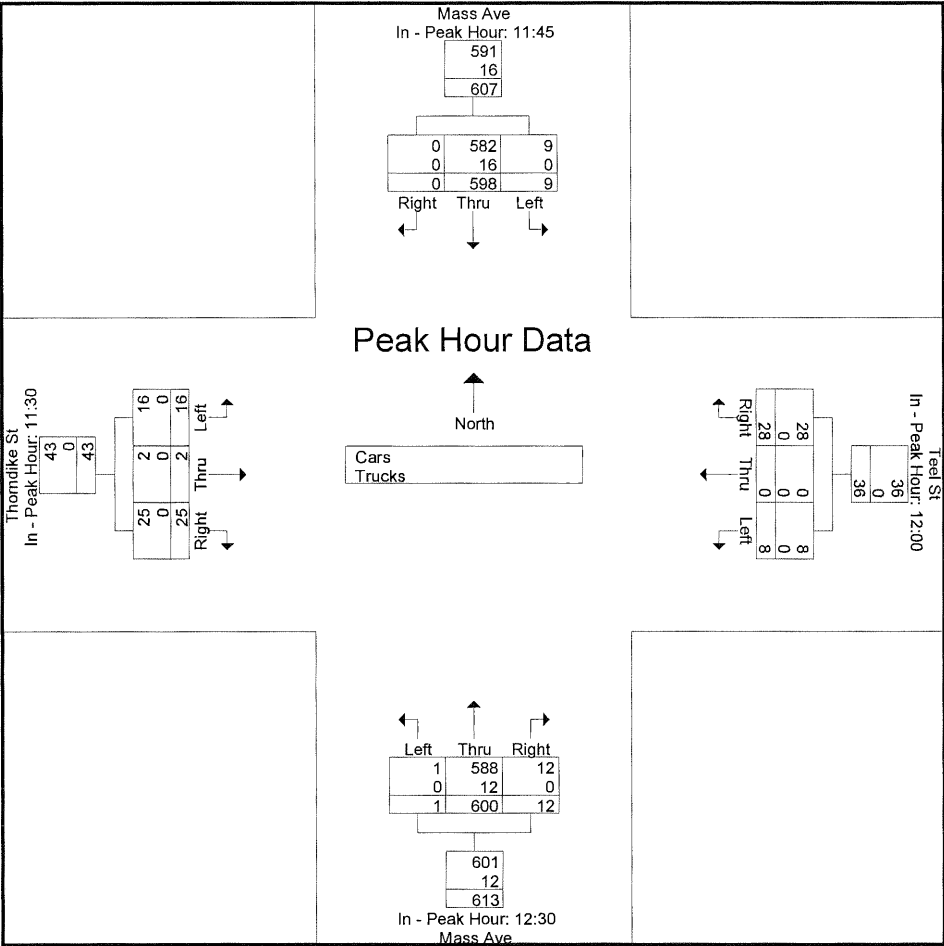
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Site Code : 01300005
Start Date : 10/18/2008
Page No : 2



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45				12:00				12:30				11:30			
+0 mins.	1	148	0	149	0	0	6	6	1	131	5	137	3	0	4	7
+15 mins.	3	154	0	157	3	0	8	11	0	162	3	165	2	1	4	7
+30 mins.	2	145	0	147	2	0	8	10	0	149	3	152	5	1	5	11
+45 mins.	3	151	0	154	3	0	6	9	0	158	1	159	6	0	12	18
Total Volume	9	598	0	607	8	0	28	36	1	600	12	613	16	2	25	43
% App. Total	1.5	98.5	0		22.2	0	77.8		0.2	97.9	2		37.2	4.7	58.1	
PHF	.750	.971	.000	.967	.667	.000	.875	.818	.250	.926	.600	.929	.667	.500	.521	.597
Cars	9	582	0	591	8	0	28	36	1	588	12	601	16	2	25	43
% Cars	100	97.3	0	97.4	100	0	100	100	100	98	100	98	100	100	100	100
Trucks	0	16	0	16	0	0	0	0	0	12	0	12	0	0	0	0
% Trucks	0	2.7	0	2.6	0	0	0	0	0	2	0	2	0	0	0	0



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300005
 Site Code : 01300005
 Start Date : 10/18/2008
 Page No : 1

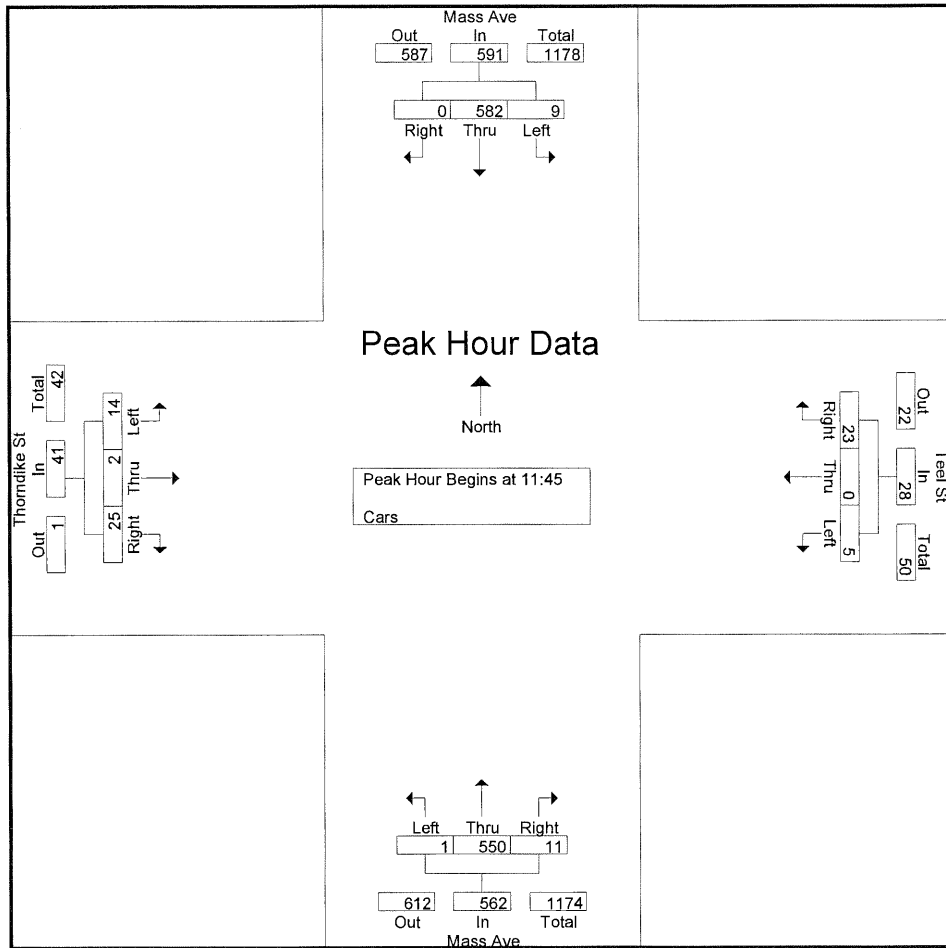
Groups Printed- Cars

Start Time	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	2	126	0	2	0	2	0	141	2	3	0	4	282
11:45	1	144	0	0	0	1	0	147	2	2	1	4	302
Total	3	270	0	2	0	3	0	288	4	5	1	8	584
12:00	3	150	0	0	0	6	0	143	2	5	1	5	315
12:15	2	144	0	3	0	8	0	131	2	6	0	12	308
12:30	3	144	0	2	0	8	1	129	5	1	0	4	297
12:45	1	120	0	3	0	6	0	156	3	2	0	4	295
Total	9	558	0	8	0	28	1	559	12	14	1	25	1215
13:00	2	150	0	2	0	0	0	145	3	6	0	4	312
13:15	4	134	0	0	0	3	0	158	1	4	1	6	311
Grand Total	18	1112	0	12	0	34	1	1150	20	29	3	43	2422
Apprch %	1.6	98.4	0	26.1	0	73.9	0.1	98.2	1.7	38.7	4	57.3	
Total %	0.7	45.9	0	0.5	0	1.4	0	47.5	0.8	1.2	0.1	1.8	

	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45																	
11:45	1	144	0	145	0	0	1	1	0	147	2	149	2	1	4	7	302
12:00	3	150	0	153	0	0	6	6	0	143	2	145	5	1	5	11	315
12:15	2	144	0	146	3	0	8	11	0	131	2	133	6	0	12	18	308
12:30	3	144	0	147	2	0	8	10	1	129	5	135	1	0	4	5	297
Total Volume	9	582	0	591	5	0	23	28	1	550	11	562	14	2	25	41	1222
% App. Total	1.5	98.5	0		17.9	0	82.1		0.2	97.9	2		34.1	4.9	61		
PHF	.750	.970	.000	.966	.417	.000	.719	.636	.250	.935	.550	.943	.583	.500	.521	.569	.970

Accurate Counts
978-664-2565

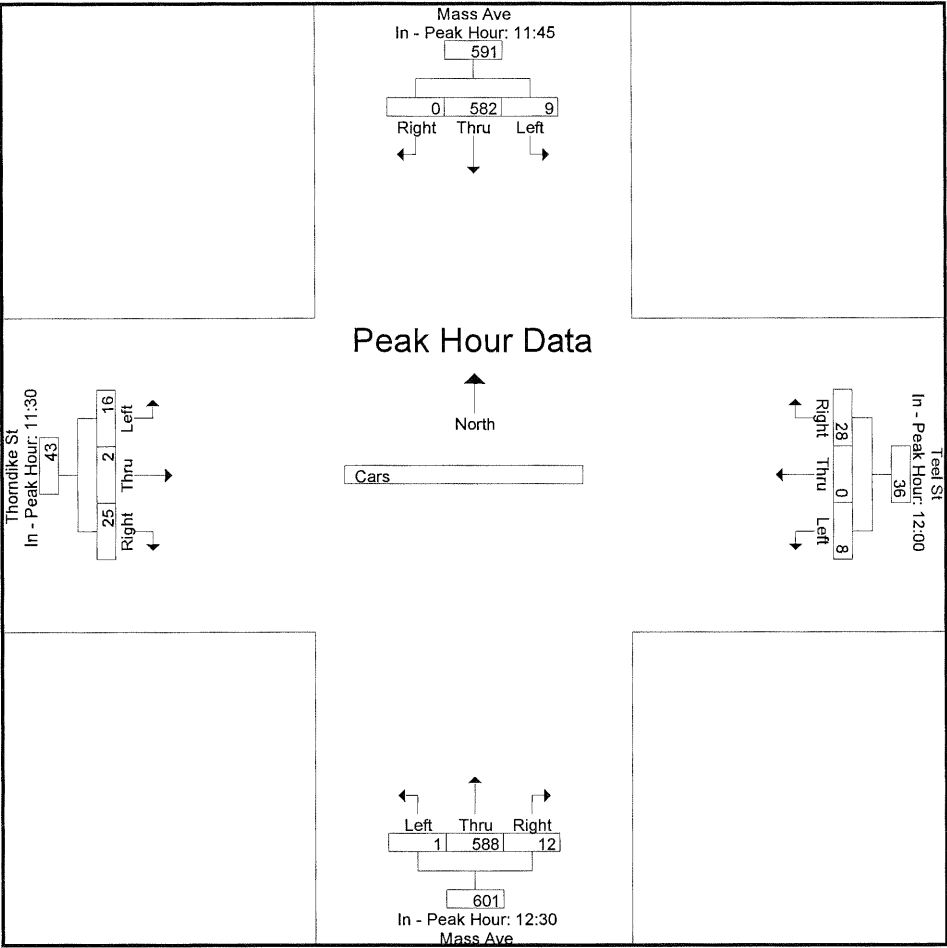
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Site Code : 01300005
Start Date : 10/18/2008
Page No : 2



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45				12:00				12:30				11:30			
+0 mins.	1	144	0	145	0	0	6	6	1	129	5	135	3	0	4	7
+15 mins.	3	150	0	153	3	0	8	11	0	156	3	159	2	1	4	7
+30 mins.	2	144	0	146	2	0	8	10	0	145	3	148	5	1	5	11
+45 mins.	3	144	0	147	3	0	6	9	0	158	1	159	6	0	12	18
Total Volume	9	582	0	591	8	0	28	36	1	588	12	601	16	2	25	43
% App. Total	1.5	98.5	0		22.2	0	77.8		0.2	97.8	2		37.2	4.7	58.1	
PHF	.750	.970	.000	.966	.667	.000	.875	.818	.250	.930	.600	.945	.667	.500	.521	.597



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300005
 Site Code : 01300005
 Start Date : 10/18/2008
 Page No : 1

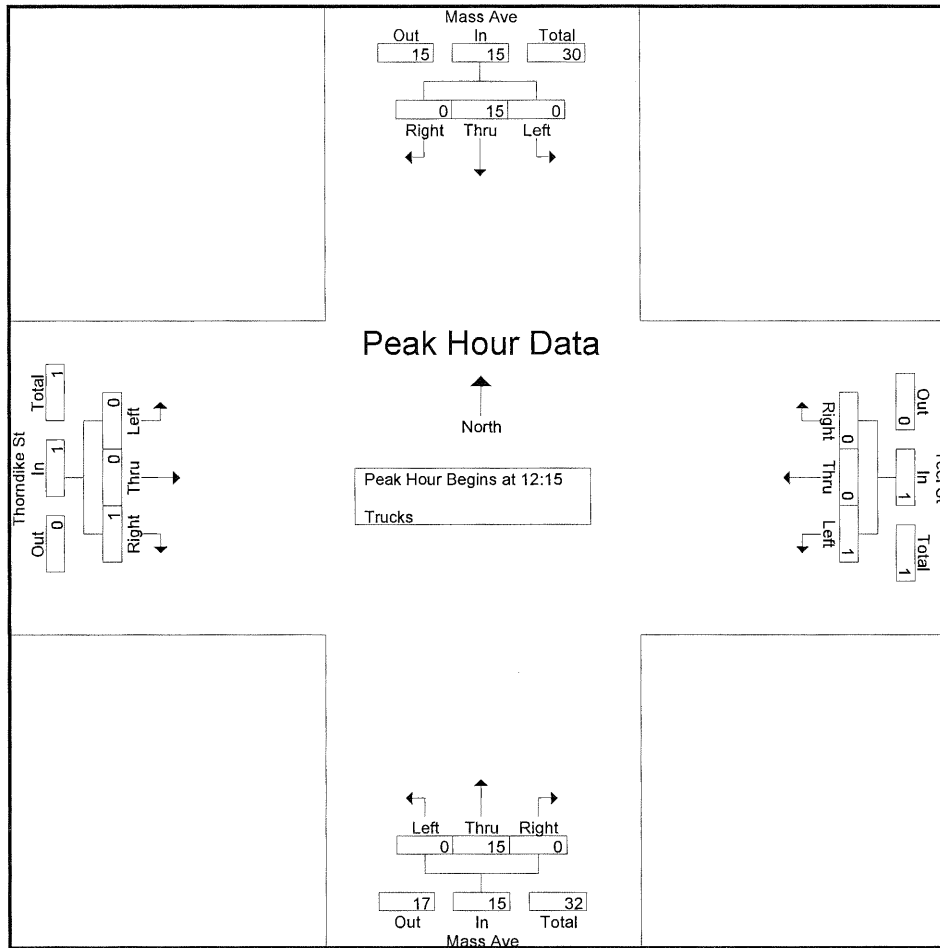
Groups Printed- Trucks

	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:30	0	2	0	0	0	0	0	2	0	0	0	0	4
11:45	0	4	0	0	0	0	0	4	0	0	0	0	8
Total	0	6	0	0	0	0	0	6	0	0	0	0	12
12:00	0	4	0	0	0	0	0	3	0	0	0	0	7
12:15	0	1	0	0	0	0	0	3	0	0	0	0	4
12:30	0	7	0	0	0	0	0	2	0	0	0	0	9
12:45	0	4	0	0	0	0	0	6	0	0	0	1	11
Total	0	16	0	0	0	0	0	14	0	0	0	1	31
13:00	0	3	0	1	0	0	0	4	0	0	0	0	8
13:15	0	3	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	28	0	1	0	0	0	24	0	0	0	1	54
Apprch %	0	100	0	100	0	0	0	100	0	0	0	100	
Total %	0	51.9	0	1.9	0	0	0	44.4	0	0	0	1.9	

	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15																	
12:15	0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	4
12:30	0	7	0	7	0	0	0	0	0	2	0	2	0	0	0	0	9
12:45	0	4	0	4	0	0	0	0	0	6	0	6	0	0	1	1	11
13:00	0	3	0	3	1	0	0	1	0	4	0	4	0	0	0	0	8
Total Volume	0	15	0	15	1	0	0	1	0	15	0	15	0	0	1	1	32
% App. Total	0	100	0		100	0	0		0	100	0		0	0	100		
PHF	.000	.536	.000	.536	.250	.000	.000	.250	.000	.625	.000	.625	.000	.000	.250	.250	.727

Accurate Counts
978-664-2565

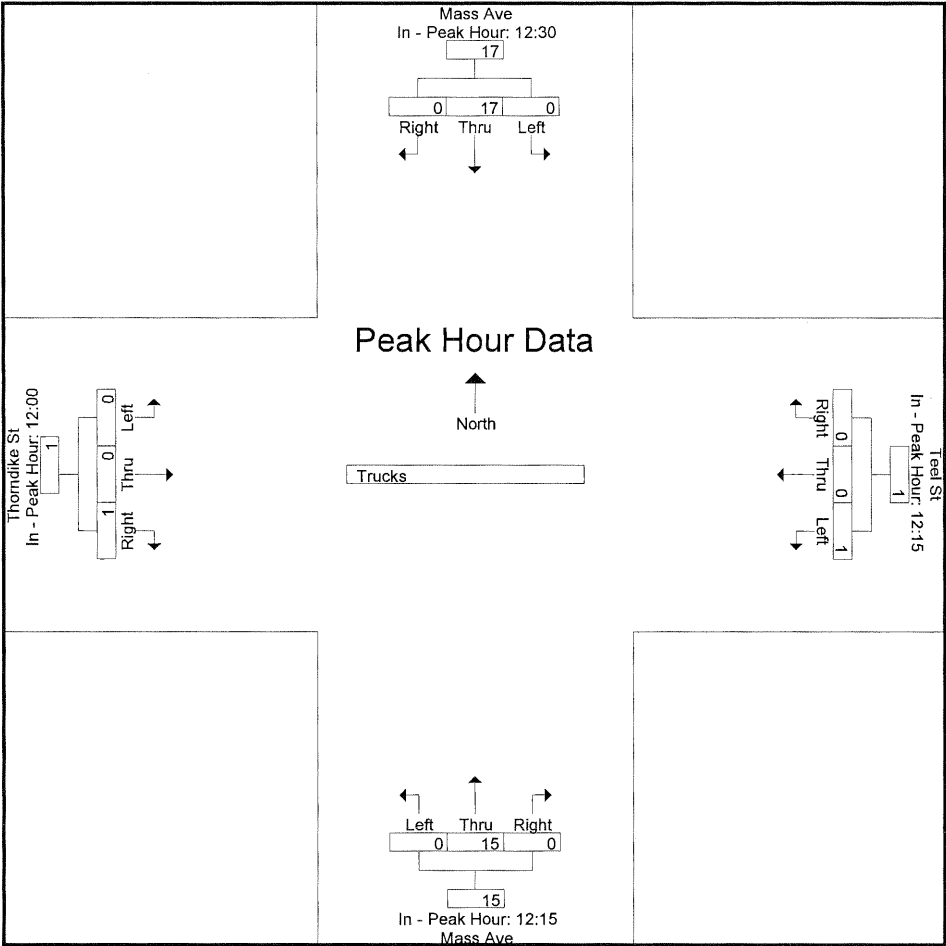
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Start Date : 10/18/2008
Page No : 2



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:30				12:15				12:15				12:00			
+0 mins.	0	7	0	7	0	0	0	0	0	3	0	3	0	0	0	0
+15 mins.	0	4	0	4	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	3	0	3	0	0	0	0	0	6	0	6	0	0	0	0
+45 mins.	0	3	0	3	1	0	0	1	0	4	0	4	0	0	1	1
Total Volume	0	17	0	17	1	0	0	1	0	15	0	15	0	0	1	1
% App. Total	0	100	0		100	0	0		0	100	0		0	0	100	
PHF	.000	.607	.000	.607	.250	.000	.000	.250	.000	.625	.000	.625	.000	.000	.250	.250



N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300005
 Site Code : 01300005
 Start Date : 10/18/2008
 Page No : 1

Groups Printed- Peds

Start Time	Mass Ave From North		Teel St From East		Mass Ave From South		Thorndike St From West		Int. Total
	WB	EB	NB	SB	EB	WB	SB	NB	
11:30	0	0	6	4	0	3	8	4	25
11:45	3	4	2	1	0	0	4	3	17
Total	3	4	8	5	0	3	12	7	42
12:00	7	1	2	1	0	0	4	3	18
12:15	3	5	4	1	0	0	5	1	19
12:30	2	3	2	2	0	0	4	2	15
12:45	2	4	5	4	0	0	3	1	19
Total	14	13	13	8	0	0	16	7	71
13:00	3	2	4	2	0	0	6	2	19
13:15	1	3	5	5	0	0	4	4	22
Grand Total	21	22	30	20	0	3	38	20	154
Apprch %	48.8	51.2	60	40	0	100	65.5	34.5	
Total %	13.6	14.3	19.5	13	0	1.9	24.7	13	

	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	EB	WB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:30													
11:30	0	0	0	6	4	10	0	3	3	8	4	12	25
11:45	3	4	7	2	1	3	0	0	0	4	3	7	17
12:00	7	1	8	2	1	3	0	0	0	4	3	7	18
12:15	3	5	8	4	1	5	0	0	0	5	1	6	19
Total Volume	13	10	23	14	7	21	0	3	3	21	11	32	79
% App. Total	56.5	43.5		66.7	33.3		0	100		65.6	34.4		
PHF	.464	.500	.719	.583	.438	.525	.000	.250	.250	.656	.688	.667	.790

Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	11:45			12:30			11:30			11:30		
+0 mins.	3	4	7	2	2	4	0	3	3	8	4	12
+15 mins.	7	1	8	5	4	9	0	0	0	4	3	7
+30 mins.	3	5	8	4	2	6	0	0	0	4	3	7
+45 mins.	2	3	5	5	5	10	0	0	0	5	1	6
Total Volume	15	13	28	16	13	29	0	3	3	21	11	32
% App. Total	53.6	46.4		55.2	44.8		0	100		65.6	34.4	
PHF	.536	.650	.875	.800	.650	.725	.000	.250	.250	.656	.688	.667

N/S Street : Massachusetts Avenue
 E/W Street: Teel St / Thorndike St
 City/State : Arlington, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300005
 Site Code : 01300005
 Start Date : 10/18/2008
 Page No : 1

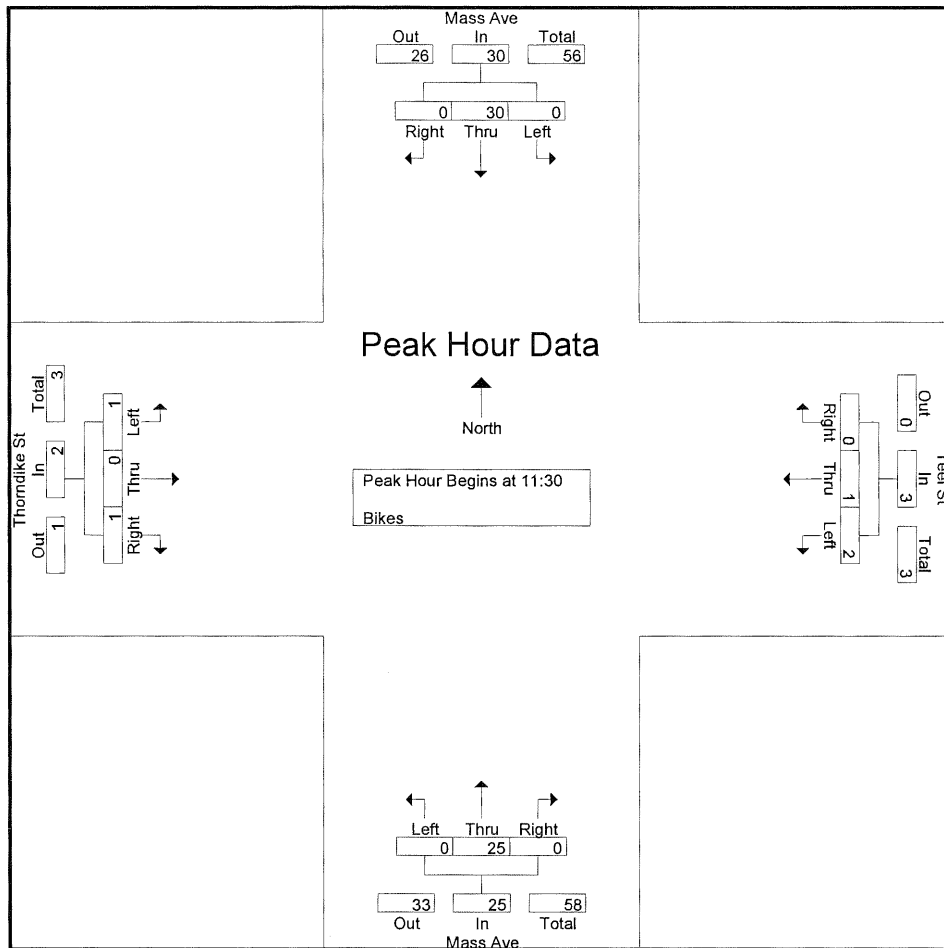
Groups Printed- Bikes

	Mass Ave From North			Teel St From East			Mass Ave From South			Thorndike St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
11:30	0	11	0	1	0	0	0	6	0	1	0	0	19
11:45	0	5	0	1	0	0	0	10	0	0	0	1	17
Total	0	16	0	2	0	0	0	16	0	1	0	1	36
12:00	0	9	0	0	0	0	0	7	0	0	0	0	16
12:15	0	5	0	0	1	0	0	2	0	0	0	0	8
12:30	0	11	0	0	0	1	0	7	0	0	0	0	19
12:45	0	5	0	1	0	0	0	2	0	0	0	0	8
Total	0	30	0	1	1	1	0	18	0	0	0	0	51
13:00	0	22	0	0	0	0	0	0	0	0	0	0	22
13:15	0	1	0	0	0	0	0	6	0	0	0	0	7
Grand Total	0	69	0	3	1	1	0	40	0	1	0	1	116
Apprch %	0	100	0	60	20	20	0	100	0	50	0	50	
Total %	0	59.5	0	2.6	0.9	0.9	0	34.5	0	0.9	0	0.9	

	Mass Ave From North				Teel St From East				Mass Ave From South				Thorndike St From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30																	
11:30	0	11	0	11	1	0	0	1	0	6	0	6	1	0	0	1	19
11:45	0	5	0	5	1	0	0	1	0	10	0	10	0	0	1	1	17
12:00	0	9	0	9	0	0	0	0	0	7	0	7	0	0	0	0	16
12:15	0	5	0	5	0	1	0	1	0	2	0	2	0	0	0	0	8
Total Volume	0	30	0	30	2	1	0	3	0	25	0	25	1	0	1	2	60
% App. Total	0	100	0		66.7	33.3	0		0	100	0		50	0	50		
PHF	.000	.682	.000	.682	.500	.250	.000	.750	.000	.625	.000	.625	.250	.000	.250	.500	.789

Accurate Counts
978-664-2565

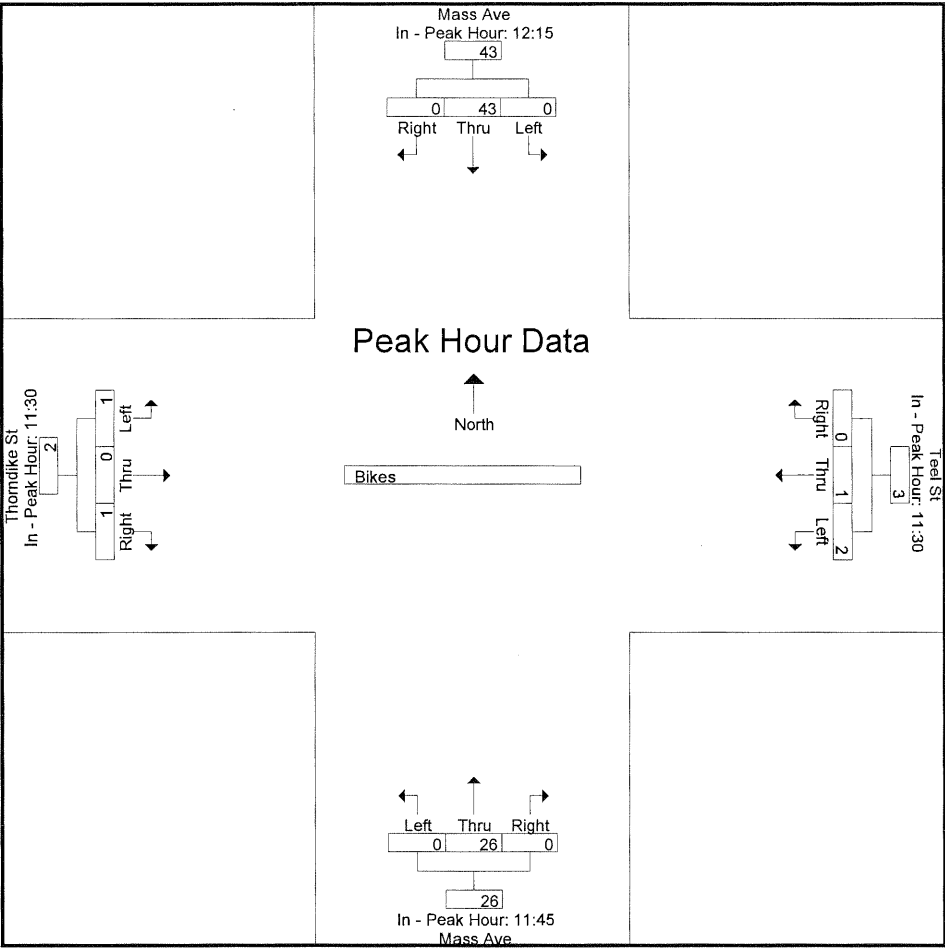
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Start Date : 10/18/2008
Page No : 2



Peak Hour Analysis From 11:30 to 13:15 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:15				11:30				11:45				11:30			
+0 mins.	0	5	0	5	1	0	0	1	0	10	0	10	1	0	0	1
+15 mins.	0	11	0	11	1	0	0	1	0	7	0	7	0	0	1	1
+30 mins.	0	5	0	5	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	22	0	22	0	1	0	1	0	7	0	7	0	0	0	0
Total Volume	0	43	0	43	2	1	0	3	0	26	0	26	1	0	1	2
% App. Total	0	100	0		66.7	33.3	0		0	100	0		50	0	50	
PHF	.000	.489	.000	.489	.500	.250	.000	.750	.000	.650	.000	.650	.250	.000	.250	.500



N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

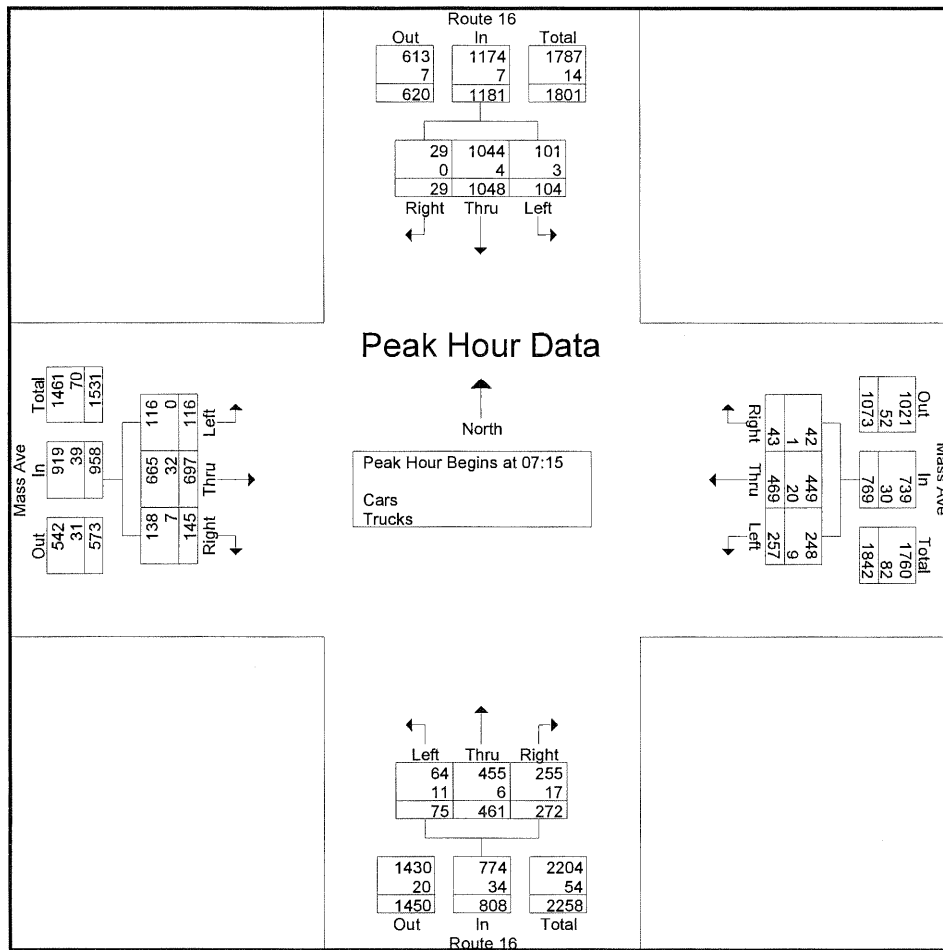
Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	27	249	3	92	58	11	11	113	62	15	139	32	812
07:15	29	287	10	61	92	14	13	141	69	27	175	36	954
07:30	27	247	6	70	135	11	22	110	72	21	173	39	933
07:45	30	264	8	66	126	12	20	102	65	26	162	40	921
Total	113	1047	27	289	411	48	66	466	268	89	649	147	3620
08:00	18	250	5	60	116	6	20	108	66	42	187	30	908
08:15	38	229	9	63	135	15	22	91	46	23	183	37	891
08:30	34	180	6	49	111	7	15	124	62	19	204	26	837
08:45	39	161	24	51	129	8	10	104	64	13	222	22	847
Total	129	820	44	223	491	36	67	427	238	97	796	115	3483
Grand Total	242	1867	71	512	902	84	133	893	506	186	1445	262	7103
Apprch %	11.1	85.6	3.3	34.2	60.2	5.6	8.7	58.3	33	9.8	76.3	13.8	
Total %	3.4	26.3	1	7.2	12.7	1.2	1.9	12.6	7.1	2.6	20.3	3.7	
Cars	236	1855	69	489	869	82	113	882	481	185	1393	244	6898
% Cars	97.5	99.4	97.2	95.5	96.3	97.6	85	98.8	95.1	99.5	96.4	93.1	97.1
Trucks	6	12	2	23	33	2	20	11	25	1	52	18	205
% Trucks	2.5	0.6	2.8	4.5	3.7	2.4	15	1.2	4.9	0.5	3.6	6.9	2.9

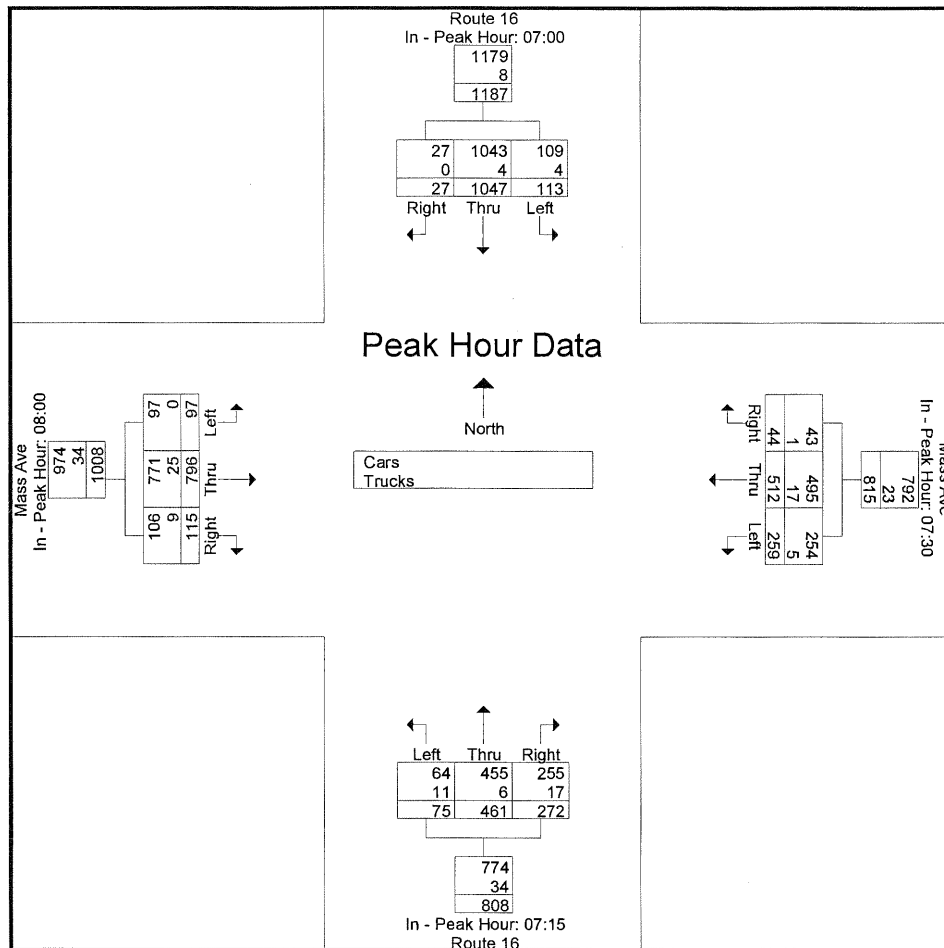
	Route 16 From North				Mass Ave From East				Route 16 From South				Mass Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	29	287	10	326	61	92	14	167	13	141	69	223	27	175	36	238	954
07:30	27	247	6	280	70	135	11	216	22	110	72	204	21	173	39	233	933
07:45	30	264	8	302	66	126	12	204	20	102	65	187	26	162	40	228	921
08:00	18	250	5	273	60	116	6	182	20	108	66	194	42	187	30	259	908
Total Volume	104	1048	29	1181	257	469	43	769	75	461	272	808	116	697	145	958	3716
% App. Total	8.8	88.7	2.5		33.4	61	5.6		9.3	57.1	33.7		12.1	72.8	15.1		
PHF	.867	.913	.725	.906	.918	.869	.768	.890	.852	.817	.944	.906	.690	.932	.906	.925	.974
Cars	101	1044	29	1174	248	449	42	739	64	455	255	774	116	665	138	919	3606
% Cars	97.1	99.6	100	99.4	96.5	95.7	97.7	96.1	85.3	98.7	93.8	95.8	100	95.4	95.2	95.9	97.0
Trucks	3	4	0	7	9	20	1	30	11	6	17	34	0	32	7	39	110
% Trucks	2.9	0.4	0	0.6	3.5	4.3	2.3	3.9	14.7	1.3	6.3	4.2	0	4.6	4.8	4.1	3.0



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				07:30				07:15				08:00			
+0 mins.	27	249	3	279	70	135	11	216	13	141	69	223	42	187	30	259
+15 mins.	29	287	10	326	66	126	12	204	22	110	72	204	23	183	37	243
+30 mins.	27	247	6	280	60	116	6	182	20	102	65	187	19	204	26	249
+45 mins.	30	264	8	302	63	135	15	213	20	108	66	194	13	222	22	257
Total Volume	113	1047	27	1187	259	512	44	815	75	461	272	808	97	796	115	1008
% App. Total	9.5	88.2	2.3		31.8	62.8	5.4		9.3	57.1	33.7		9.6	79	11.4	
PHF	.942	.912	.675	.910	.925	.948	.733	.943	.852	.817	.944	.906	.577	.896	.777	.973
Cars	109	1043	27	1179	254	495	43	792	64	455	255	774	97	771	106	974
% Cars	96.5	99.6	100	99.3	98.1	96.7	97.7	97.2	85.3	98.7	93.8	95.8	100	96.9	92.2	96.6
Trucks	4	4	0	8	5	17	1	23	11	6	17	34	0	25	9	34
% Trucks	3.5	0.4	0	0.7	1.9	3.3	2.3	2.8	14.7	1.3	6.2	4.2	0	3.1	7.8	3.4



N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

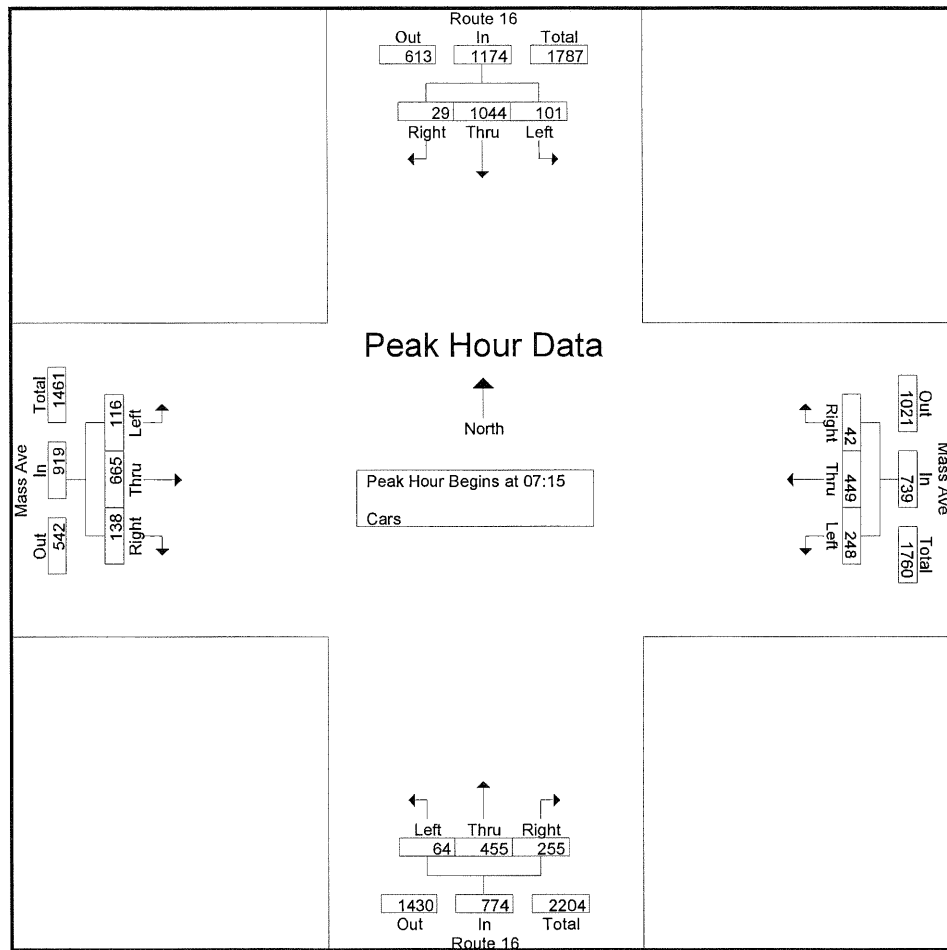
Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	26	247	3	89	55	11	9	112	57	14	137	29	789
07:15	26	287	10	57	87	14	11	139	66	27	166	34	924
07:30	27	245	6	68	129	11	17	108	68	21	165	38	903
07:45	30	264	8	65	121	11	17	102	62	26	154	37	897
Total	109	1043	27	279	392	47	54	461	253	88	622	138	3513
08:00	18	248	5	58	112	6	19	106	59	42	180	29	882
08:15	37	224	9	63	133	15	19	91	45	23	174	35	868
08:30	34	180	6	44	108	7	13	121	60	19	202	22	816
08:45	38	160	22	45	124	7	8	103	64	13	215	20	819
Total	127	812	42	210	477	35	59	421	228	97	771	106	3385
Grand Total	236	1855	69	489	869	82	113	882	481	185	1393	244	6898
Appreh %	10.9	85.9	3.2	34	60.3	5.7	7.7	59.8	32.6	10.2	76.5	13.4	
Total %	3.4	26.9	1	7.1	12.6	1.2	1.6	12.8	7	2.7	20.2	3.5	

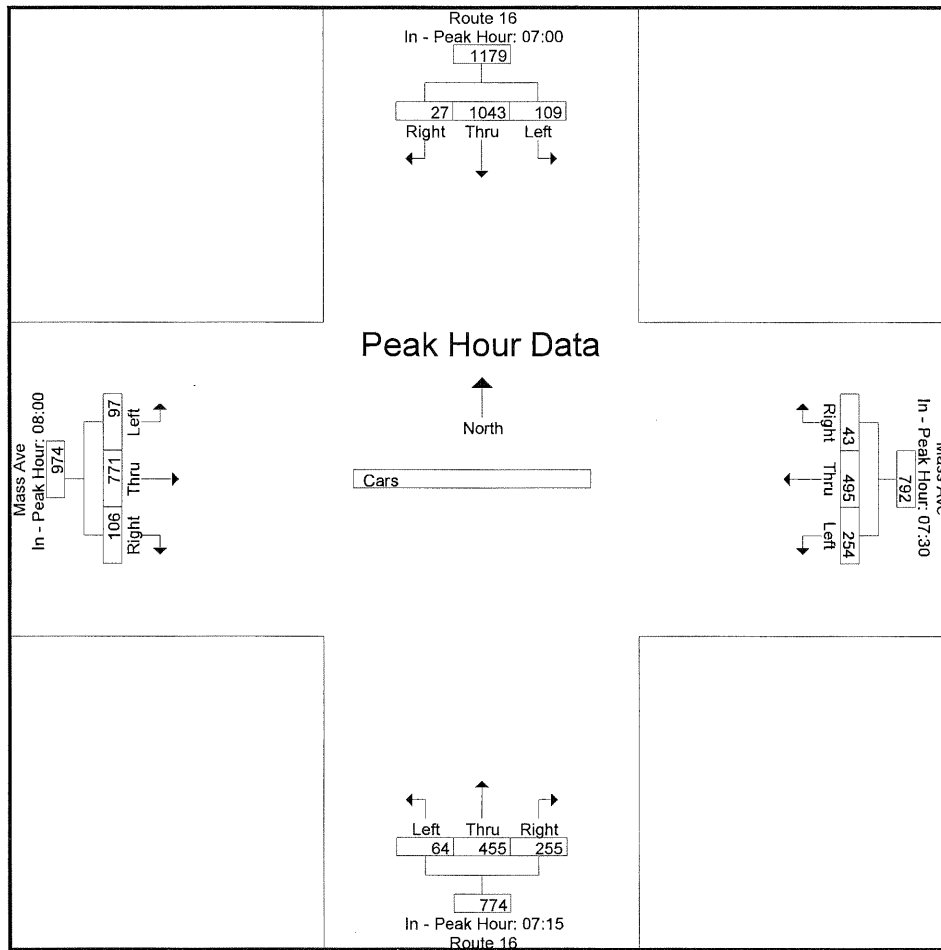
	Route 16 From North				Mass Ave From East				Route 16 From South				Mass Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	26	287	10	323	57	87	14	158	11	139	66	216	27	166	34	227	924
07:30	27	245	6	278	68	129	11	208	17	108	68	193	21	165	38	224	903
07:45	30	264	8	302	65	121	11	197	17	102	62	181	26	154	37	217	897
08:00	18	248	5	271	58	112	6	176	19	106	59	184	42	180	29	251	882
Total Volume	101	1044	29	1174	248	449	42	739	64	455	255	774	116	665	138	919	3606
% App. Total	8.6	88.9	2.5		33.6	60.8	5.7		8.3	58.8	32.9		12.6	72.4	15		
PHF	.842	.909	.725	.909	.912	.870	.750	.888	.842	.818	.938	.896	.690	.924	.908	.915	.976



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				07:30				07:15				08:00			
+0 mins.	26	247	3	276	68	129	11	208	11	139	66	216	42	180	29	251
+15 mins.	26	287	10	323	65	121	11	197	17	108	68	193	23	174	35	232
+30 mins.	27	245	6	278	58	112	6	176	17	102	62	181	19	202	22	243
+45 mins.	30	264	8	302	63	133	15	211	19	106	59	184	13	215	20	248
Total Volume	109	1043	27	1179	254	495	43	792	64	455	255	774	97	771	106	974
% App. Total	9.2	88.5	2.3		32.1	62.5	5.4		8.3	58.8	32.9		10	79.2	10.9	
PHF	.908	.909	.675	.913	.934	.930	.717	.938	.842	.818	.938	.896	.577	.897	.757	.970



N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

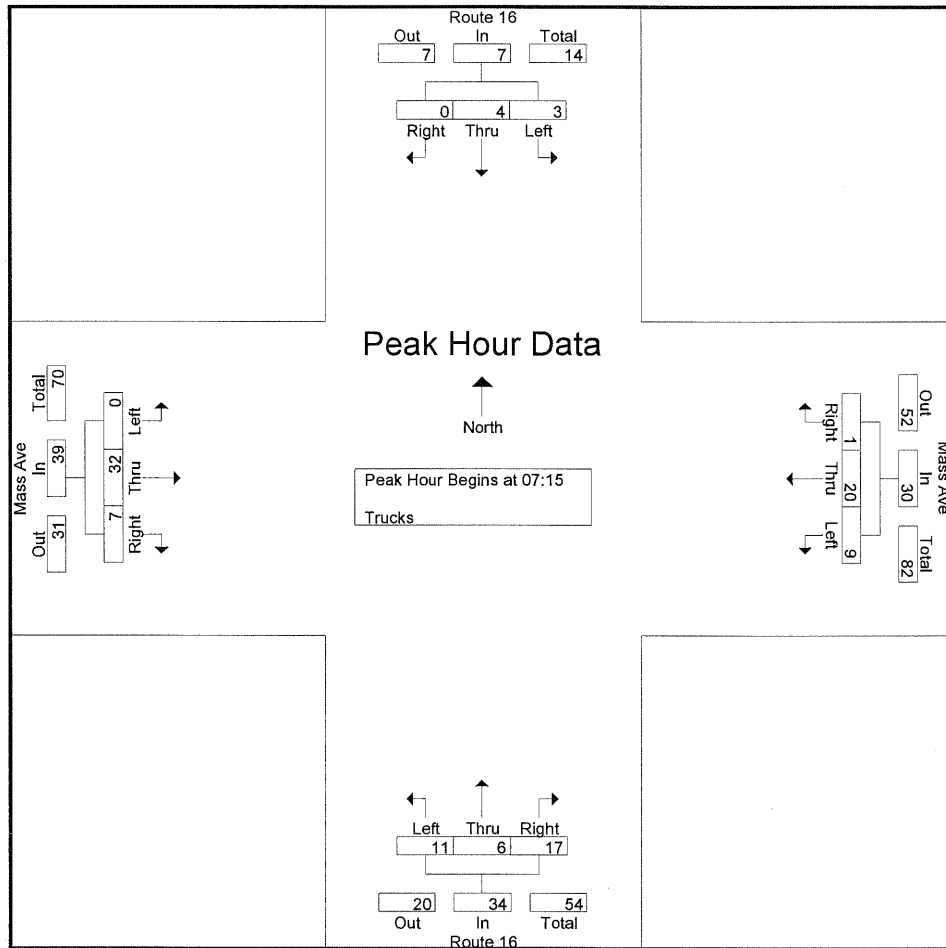
Groups Printed- Trucks

	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	1	2	0	3	3	0	2	1	5	1	2	3	23
07:15	3	0	0	4	5	0	2	2	3	0	9	2	30
07:30	0	2	0	2	6	0	5	2	4	0	8	1	30
07:45	0	0	0	1	5	1	3	0	3	0	8	3	24
Total	4	4	0	10	19	1	12	5	15	1	27	9	107
08:00	0	2	0	2	4	0	1	2	7	0	7	1	26
08:15	1	5	0	0	2	0	3	0	1	0	9	2	23
08:30	0	0	0	5	3	0	2	3	2	0	2	4	21
08:45	1	1	2	6	5	1	2	1	0	0	7	2	28
Total	2	8	2	13	14	1	8	6	10	0	25	9	98
Grand Total	6	12	2	23	33	2	20	11	25	1	52	18	205
Apprch %	30	60	10	39.7	56.9	3.4	35.7	19.6	44.6	1.4	73.2	25.4	
Total %	2.9	5.9	1	11.2	16.1	1	9.8	5.4	12.2	0.5	25.4	8.8	

	Route 16 From North				Mass Ave From East				Route 16 From South				Mass Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	3	0	0	3	4	5	0	9	2	2	3	7	0	9	2	11	30
07:30	0	2	0	2	2	6	0	8	5	2	4	11	0	8	1	9	30
07:45	0	0	0	0	1	5	1	7	3	0	3	6	0	8	3	11	24
08:00	0	2	0	2	2	4	0	6	1	2	7	10	0	7	1	8	26
Total Volume	3	4	0	7	9	20	1	30	11	6	17	34	0	32	7	39	110
% App. Total	42.9	57.1	0		30	66.7	3.3		32.4	17.6	50		0	82.1	17.9		
PHF	.250	.500	.000	.583	.563	.833	.250	.833	.550	.750	.607	.773	.000	.889	.583	.886	.917

Accurate Counts
978-664-2565

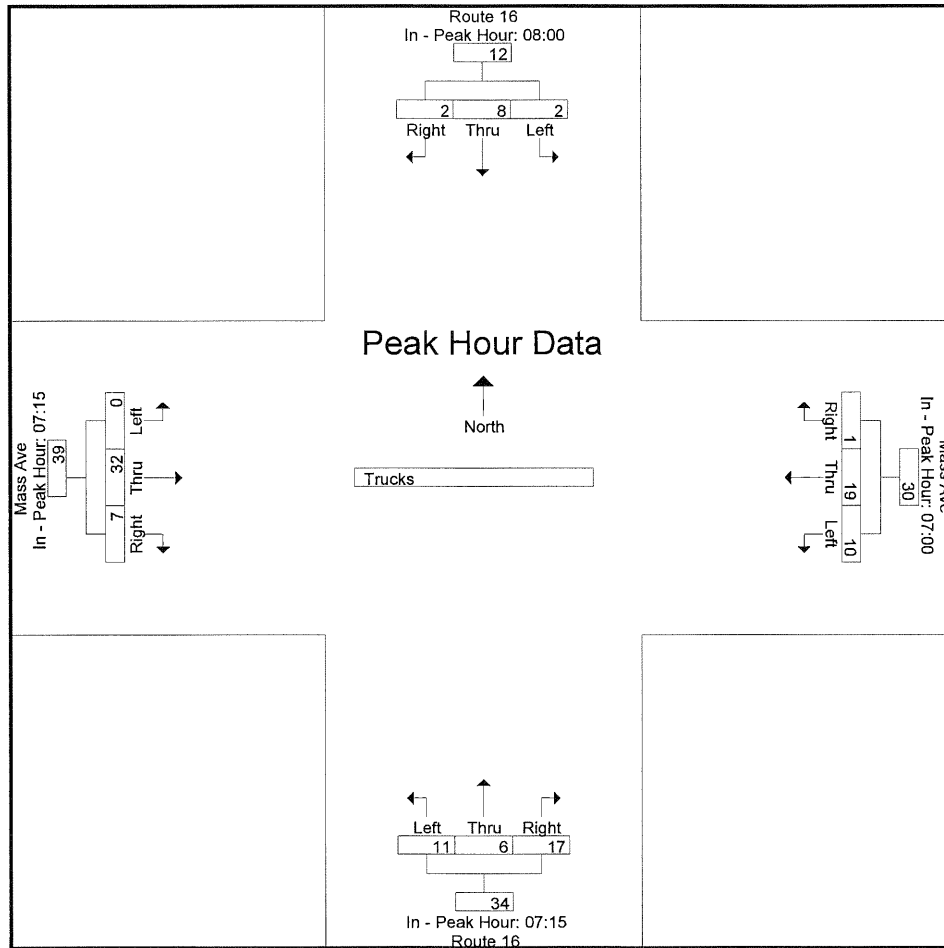
File Name : 01300006
Site Code : 01300006
Start Date : 10/21/2008
Page No : 2



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00				07:00				07:15				07:15			
+0 mins.	0	2	0	2	3	3	0	6	2	2	3	7	0	9	2	11
+15 mins.	1	5	0	6	4	5	0	9	5	2	4	11	0	8	1	9
+30 mins.	0	0	0	0	2	6	0	8	3	0	3	6	0	8	3	11
+45 mins.	1	1	2	4	1	5	1	7	1	2	7	10	0	7	1	8
Total Volume	2	8	2	12	10	19	1	30	11	6	17	34	0	32	7	39
% App. Total	16.7	66.7	16.7		33.3	63.3	3.3		32.4	17.6	50		0	82.1	17.9	
PHF	.500	.400	.250	.500	.625	.792	.250	.833	.550	.750	.607	.773	.000	.889	.583	.886



N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

	Route 16 From North		Mass Ave From East		Route 16 From South		Mass Ave From West		
Start Time	WB	EB	NB	SB	WB	EB	SB	NB	Int. Total
07:00	0	1	0	0	0	2	0	0	3
07:15	0	0	0	0	0	3	0	0	3
07:30	1	3	0	1	1	1	1	0	8
07:45	2	4	0	0	0	2	1	0	9
Total	3	8	0	1	1	8	2	0	23
08:00	3	9	1	2	2	6	1	0	24
08:15	0	14	0	0	0	7	0	0	21
08:30	0	3	1	2	2	8	0	0	16
08:45	0	5	0	1	1	3	0	0	10
Total	3	31	2	5	5	24	1	0	71
Grand Total	6	39	2	6	6	32	3	0	94
Apprch %	13.3	86.7	25	75	15.8	84.2	100	0	
Total %	6.4	41.5	2.1	6.4	6.4	34	3.2	0	

	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	WB	EB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00													
08:00	3	9	12	1	2	3	2	6	8	1	0	1	24
08:15	0	14	14	0	0	0	0	7	7	0	0	0	21
08:30	0	3	3	1	2	3	2	8	10	0	0	0	16
08:45	0	5	5	0	1	1	1	3	4	0	0	0	10
Total Volume	3	31	34	2	5	7	5	24	29	1	0	1	71
% App. Total	8.8	91.2		28.6	71.4		17.2	82.8		100	0		
PHF	.250	.554	.607	.500	.625	.583	.625	.750	.725	.250	.000	.250	.740

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30			08:00			08:00			07:15		
+0 mins.	1	3	4	1	2	3	2	6	8	0	0	0
+15 mins.	2	4	6	0	0	0	0	7	7	1	0	1
+30 mins.	3	9	12	1	2	3	2	8	10	1	0	1
+45 mins.	0	14	14	0	1	1	1	3	4	1	0	1
Total Volume	6	30	36	2	5	7	5	24	29	3	0	3
% App. Total	16.7	83.3		28.6	71.4		17.2	82.8		100	0	
PHF	.500	.536	.643	.500	.625	.583	.625	.750	.725	.750	.000	.750

N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

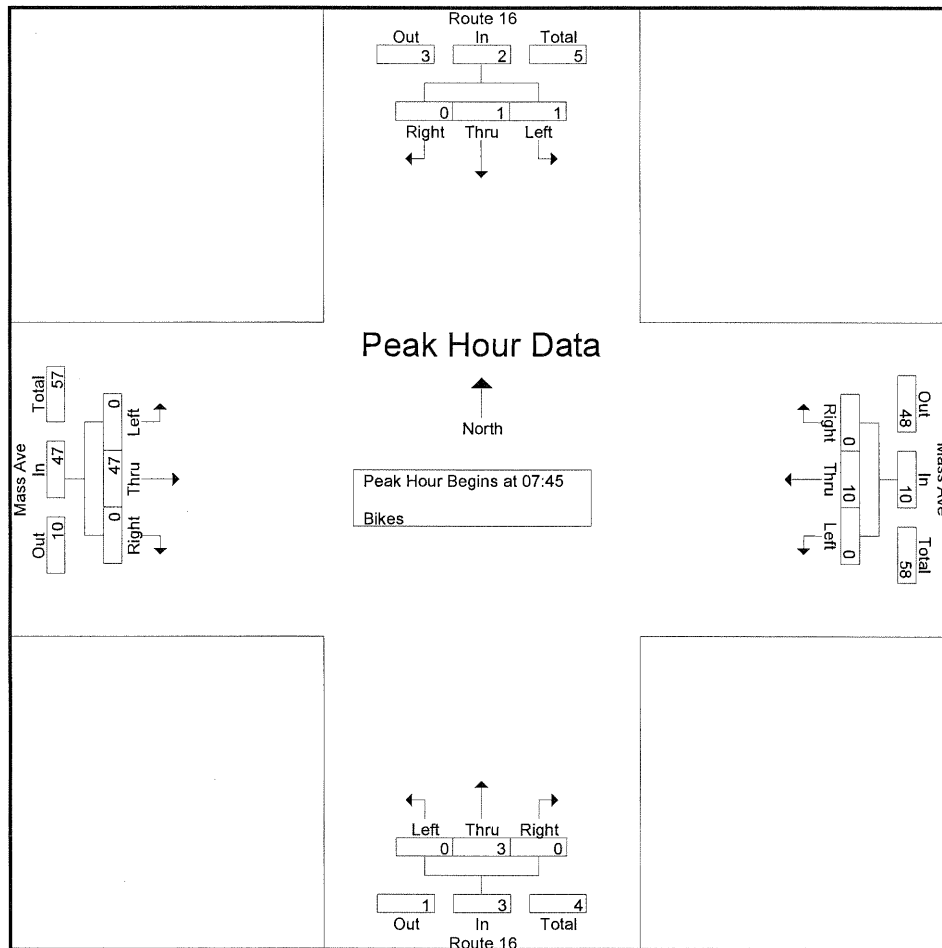
Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

Start Time	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00	0	0	0	1	2	0	0	0	0	0	8	0	11
07:15	0	0	0	0	6	0	0	0	0	0	7	0	13
07:30	0	0	0	0	1	0	0	0	0	0	7	0	8
07:45	1	1	0	0	1	0	0	0	0	0	11	0	14
Total	1	1	0	1	10	0	0	0	0	0	33	0	46
08:00	0	0	0	0	5	0	0	3	0	0	14	0	22
08:15	0	0	0	0	1	0	0	0	0	0	15	0	16
08:30	0	0	0	0	3	0	0	0	0	0	7	0	10
08:45	0	0	0	0	2	0	0	0	0	0	12	0	14
Total	0	0	0	0	11	0	0	3	0	0	48	0	62
Grand Total	1	1	0	1	21	0	0	3	0	0	81	0	108
Apprch %	50	50	0	4.5	95.5	0	0	100	0	0	100	0	
Total %	0.9	0.9	0	0.9	19.4	0	0	2.8	0	0	75	0	

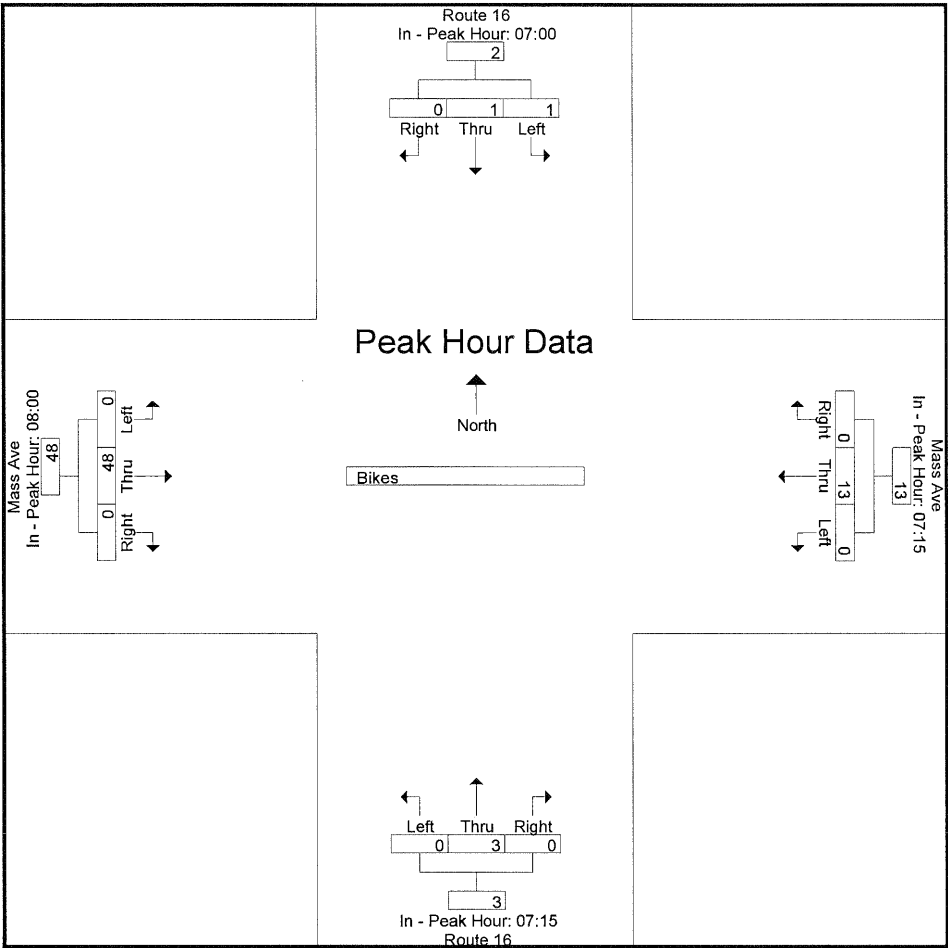
	Route 16 From North				Mass Ave From East				Route 16 From South				Mass Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	1	1	0	2	0	1	0	1	0	0	0	0	0	11	0	11	14
08:00	0	0	0	0	0	5	0	5	0	3	0	3	0	14	0	14	22
08:15	0	0	0	0	0	1	0	1	0	0	0	0	0	15	0	15	16
08:30	0	0	0	0	0	3	0	3	0	0	0	0	0	7	0	7	10
Total Volume	1	1	0	2	0	10	0	10	0	3	0	3	0	47	0	47	62
% App. Total	50	50	0		0	100	0		0	100	0		0	100	0		
PHF	.250	.250	.000	.250	.000	.500	.000	.500	.000	.250	.000	.250	.000	.783	.000	.783	.705



Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00				07:15				07:15				08:00			
+0 mins.	0	0	0	0	0	6	0	6	0	0	0	0	0	14	0	14
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	15	0	15
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	7	0	7
+45 mins.	1	1	0	2	0	5	0	5	0	3	0	3	0	12	0	12
Total Volume	1	1	0	2	0	13	0	13	0	3	0	3	0	48	0	48
% App. Total	50	50	0		0	100	0		0	100	0		0	100	0	
PHF	.250	.250	.000	.250	.000	.542	.000	.542	.000	.250	.000	.250	.000	.800	.000	.800



N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	25	126	13	83	113	28	32	203	65	19	89	19	815
16:15	27	175	19	67	135	35	34	203	66	26	102	23	912
16:30	24	165	32	63	105	20	30	189	74	29	92	15	838
16:45	14	177	32	70	114	24	45	200	68	28	121	16	909
Total	90	643	96	283	467	107	141	795	273	102	404	73	3474
17:00	29	124	16	68	131	15	37	180	70	25	117	17	829
17:15	24	153	24	70	142	26	43	204	78	27	128	24	943
17:30	20	161	31	76	139	15	32	168	46	27	117	32	864
17:45	24	164	21	53	109	25	35	193	67	25	117	17	850
Total	97	602	92	267	521	81	147	745	261	104	479	90	3486
Grand Total	187	1245	188	550	988	188	288	1540	534	206	883	163	6960
Apprch %	11.5	76.9	11.6	31.9	57.2	10.9	12.2	65.2	22.6	16.5	70.5	13	
Total %	2.7	17.9	2.7	7.9	14.2	2.7	4.1	22.1	7.7	3	12.7	2.3	
Cars	185	1236	186	532	959	183	271	1525	531	203	859	154	6824
% Cars	98.9	99.3	98.9	96.7	97.1	97.3	94.1	99	99.4	98.5	97.3	94.5	98
Trucks	2	9	2	18	29	5	17	15	3	3	24	9	136
% Trucks	1.1	0.7	1.1	3.3	2.9	2.7	5.9	1	0.6	1.5	2.7	5.5	2

	Route 16 From North				Mass Ave From East				Route 16 From South				Mass Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	14	177	32	223	70	114	24	208	45	200	68	313	28	121	16	165	909
17:00	29	124	16	169	68	131	15	214	37	180	70	287	25	117	17	159	829
17:15	24	153	24	201	70	142	26	238	43	204	78	325	27	128	24	179	943
17:30	20	161	31	212	76	139	15	230	32	168	46	246	27	117	32	176	864
Total Volume	87	615	103	805	284	526	80	890	157	752	262	1171	107	483	89	679	3545
% App. Total	10.8	76.4	12.8		31.9	59.1	9		13.4	64.2	22.4		15.8	71.1	13.1		
PHF	.750	.869	.805	.902	.934	.926	.769	.935	.872	.922	.840	.901	.955	.943	.695	.948	.940
Cars	86	609	102	797	275	512	79	866	147	749	261	1157	107	471	85	663	3483
% Cars	98.9	99.0	99.0	99.0	96.8	97.3	98.8	97.3	93.6	99.6	99.6	98.8	100	97.5	95.5	97.6	98.3
Trucks	1	6	1	8	9	14	1	24	10	3	1	14	0	12	4	16	62
% Trucks	1.1	1.0	1.0	1.0	3.2	2.7	1.3	2.7	6.4	0.4	0.4	1.2	0	2.5	4.5	2.4	1.7

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:15				16:45				16:30				16:45			
+0 mins.	27	175	19	221	70	114	24	208	30	189	74	293	28	121	16	165
+15 mins.	24	165	32	221	68	131	15	214	45	200	68	313	25	117	17	159
+30 mins.	14	177	32	223	70	142	26	238	37	180	70	287	27	128	24	179
+45 mins.	29	124	16	169	76	139	15	230	43	204	78	325	27	117	32	176
Total Volume	94	641	99	834	284	526	80	890	155	773	290	1218	107	483	89	679
% App. Total	11.3	76.9	11.9		31.9	59.1	9		12.7	63.5	23.8		15.8	71.1	13.1	
PHF	.810	.905	.773	.935	.934	.926	.769	.935	.861	.947	.929	.937	.955	.943	.695	.948
Cars	93	635	97	825	275	512	79	866	148	769	289	1206	107	471	85	663
% Cars	98.9	99.1	98	98.9	96.8	97.3	98.8	97.3	95.5	99.5	99.7	99	100	97.5	95.5	97.6
Trucks	1	6	2	9	9	14	1	24	7	4	1	12	0	12	4	16
% Trucks	1.1	0.9	2	1.1	3.2	2.7	1.2	2.7	4.5	0.5	0.3	1	0	2.5	4.5	2.4

N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Cars

	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	25	125	13	77	109	26	30	202	64	19	85	16	791
16:15	26	173	19	66	128	35	32	201	65	26	98	21	890
16:30	24	165	31	62	101	20	29	187	74	28	91	15	827
16:45	14	177	31	67	107	23	43	199	68	28	118	16	891
Total	89	640	94	272	445	104	134	789	271	101	392	68	3399
17:00	29	120	16	64	130	15	35	179	69	25	115	16	813
17:15	24	153	24	69	139	26	41	204	78	27	125	22	932
17:30	19	159	31	75	136	15	28	167	46	27	113	31	847
17:45	24	164	21	52	109	23	33	186	67	23	114	17	833
Total	96	596	92	260	514	79	137	736	260	102	467	86	3425
Grand Total	185	1236	186	532	959	183	271	1525	531	203	859	154	6824
Apprch %	11.5	76.9	11.6	31.8	57.3	10.9	11.6	65.5	22.8	16.7	70.6	12.7	
Total %	2.7	18.1	2.7	7.8	14.1	2.7	4	22.3	7.8	3	12.6	2.3	

	Route 16 From North				Mass Ave From East				Route 16 From South				Mass Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	14	177	31	222	67	107	23	197	43	199	68	310	28	118	16	162	891
17:00	29	120	16	165	64	130	15	209	35	179	69	283	25	115	16	156	813
17:15	24	153	24	201	69	139	26	234	41	204	78	323	27	125	22	174	932
17:30	19	159	31	209	75	136	15	226	28	167	46	241	27	113	31	171	847
Total Volume	86	609	102	797	275	512	79	866	147	749	261	1157	107	471	85	663	3483
% App. Total	10.8	76.4	12.8		31.8	59.1	9.1		12.7	64.7	22.6		16.1	71	12.8		
PHF	.741	.860	.823	.898	.917	.921	.760	.925	.855	.918	.837	.896	.955	.942	.685	.953	.934

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:15				16:45				16:30				16:45			
+0 mins.	26	173	19	218	67	107	23	197	29	187	74	290	28	118	16	162
+15 mins.	24	165	31	220	64	130	15	209	43	199	68	310	25	115	16	156
+30 mins.	14	177	31	222	69	139	26	234	35	179	69	283	27	125	22	174
+45 mins.	29	120	16	165	75	136	15	226	41	204	78	323	27	113	31	171
Total Volume	93	635	97	825	275	512	79	866	148	769	289	1206	107	471	85	663
% App. Total	11.3	77	11.8		31.8	59.1	9.1		12.3	63.8	24		16.1	71	12.8	
PHF	.802	.897	.782	.929	.917	.921	.760	.925	.860	.942	.926	.933	.955	.942	.685	.953

N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Trucks

	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
16:00	0	1	0	6	4	2	2	1	1	0	4	3	24
16:15	1	2	0	1	7	0	2	2	1	0	4	2	22
16:30	0	0	1	1	4	0	1	2	0	1	1	0	11
16:45	0	0	1	3	7	1	2	1	0	0	3	0	18
Total	1	3	2	11	22	3	7	6	2	1	12	5	75
17:00	0	4	0	4	1	0	2	1	1	0	2	1	16
17:15	0	0	0	1	3	0	2	0	0	0	3	2	11
17:30	1	2	0	1	3	0	4	1	0	0	4	1	17
17:45	0	0	0	1	0	2	2	7	0	2	3	0	17
Total	1	6	0	7	7	2	10	9	1	2	12	4	61
Grand Total	2	9	2	18	29	5	17	15	3	3	24	9	136
Apprch %	15.4	69.2	15.4	34.6	55.8	9.6	48.6	42.9	8.6	8.3	66.7	25	
Total %	1.5	6.6	1.5	13.2	21.3	3.7	12.5	11	2.2	2.2	17.6	6.6	

	Route 16 From North				Mass Ave From East				Route 16 From South				Mass Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	1	0	1	6	4	2	12	2	1	1	4	0	4	3	7	24
16:15	1	2	0	3	1	7	0	8	2	2	1	5	0	4	2	6	22
16:30	0	0	1	1	1	4	0	5	1	2	0	3	1	1	0	2	11
16:45	0	0	1	1	3	7	1	11	2	1	0	3	0	3	0	3	18
Total Volume	1	3	2	6	11	22	3	36	7	6	2	15	1	12	5	18	75
% App. Total	16.7	50	33.3		30.6	61.1	8.3		46.7	40	13.3		5.6	66.7	27.8		
PHF	.250	.375	.500	.500	.458	.786	.375	.750	.875	.750	.500	.750	.250	.750	.417	.643	.781

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	16:15				16:00				17:00				16:00			
+0 mins.	1	2	0	3	6	4	2	12	2	1	1	4	0	4	3	7
+15 mins.	0	0	1	1	1	7	0	8	2	0	0	2	0	4	2	6
+30 mins.	0	0	1	1	1	4	0	5	4	1	0	5	1	1	0	2
+45 mins.	0	4	0	4	3	7	1	11	2	7	0	9	0	3	0	3
Total Volume	1	6	2	9	11	22	3	36	10	9	1	20	1	12	5	18
% App. Total	11.1	66.7	22.2		30.6	61.1	8.3		50	45	5		5.6	66.7	27.8	
PHF	.250	.375	.500	.563	.458	.786	.375	.750	.625	.321	.250	.556	.250	.750	.417	.643

N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Peds

	Route 16 From North		Mass Ave From East		Route 16 From South		Mass Ave From West		
Start Time	WB	EB	NB	SB	WB	EB	SB	NB	Int. Total
16:00	2	0	0	4	2	0	0	0	8
16:15	3	3	1	2	0	0	1	0	10
16:30	10	2	5	0	1	5	0	1	24
16:45	4	4	0	0	1	1	0	0	10
Total	19	9	6	6	4	6	1	1	52
17:00	3	1	1	0	3	1	0	1	10
17:15	2	1	0	1	3	0	0	0	7
17:30	4	3	0	0	5	2	0	4	18
17:45	1	0	0	1	4	0	0	0	6
Total	10	5	1	2	15	3	0	5	41
Grand Total	29	14	7	8	19	9	1	6	93
Apprch %	67.4	32.6	46.7	53.3	67.9	32.1	14.3	85.7	
Total %	31.2	15.1	7.5	8.6	20.4	9.7	1.1	6.5	

	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			
Start Time	WB	EB	App. Total	NB	SB	App. Total	WB	EB	App. Total	SB	NB	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 16:15													
16:15	3	3	6	1	2	3	0	0	0	1	0	1	10
16:30	10	2	12	5	0	5	1	5	6	0	1	1	24
16:45	4	4	8	0	0	0	1	1	2	0	0	0	10
17:00	3	1	4	1	0	1	3	1	4	0	1	1	10
Total Volume	20	10	30	7	2	9	5	7	12	1	2	3	54
% App. Total	66.7	33.3		77.8	22.2		41.7	58.3		33.3	66.7		
PHF	.500	.625	.625	.350	.250	.450	.417	.350	.500	.250	.500	.750	.563

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:15			16:00			17:00			16:45		
+0 mins.	3	3	6	0	4	4	3	1	4	0	0	0
+15 mins.	10	2	12	1	2	3	3	0	3	0	1	1
+30 mins.	4	4	8	5	0	5	5	2	7	0	0	0
+45 mins.	3	1	4	0	0	0	4	0	4	0	4	4
Total Volume	20	10	30	6	6	12	15	3	18	0	5	5
% App. Total	66.7	33.3		50	50		83.3	16.7		0	100	
PHF	.500	.625	.625	.300	.375	.600	.750	.375	.643	.000	.313	.313

N/S Street : Route 16
 E/W Street: Massachusetts Avenue
 City/State : Cambridge, MA
 Weather : Clear

Accurate Counts
 978-664-2565

File Name : 01300006
 Site Code : 01300006
 Start Date : 10/21/2008
 Page No : 1

Groups Printed- Bikes

	Route 16 From North			Mass Ave From East			Route 16 From South			Mass Ave From West			Int. Total
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	0	0	0	0	0	0	0	0	0	0	1	0	1
16:15	0	0	0	0	6	0	0	1	0	0	0	0	7
16:30	0	0	0	0	13	0	0	0	0	0	0	0	13
16:45	0	0	0	0	3	0	0	0	0	0	0	0	3
Total	0	0	0	0	22	0	0	1	0	0	1	0	24
17:00	0	0	0	0	3	0	0	0	0	0	1	0	4
17:15	0	0	0	0	4	0	0	0	0	0	3	0	7
17:30	0	0	0	0	9	0	0	0	0	0	1	0	10
17:45	0	0	0	0	14	0	0	0	0	0	3	0	17
Total	0	0	0	0	30	0	0	0	0	0	8	0	38
Grand Total	0	0	0	0	52	0	0	1	0	0	9	0	62
Apprch %	0	0	0	0	100	0	0	100	0	0	100	0	
Total %	0	0	0	0	83.9	0	0	1.6	0	0	14.5	0	

	Route 16 From North				Mass Ave From East				Route 16 From South				Mass Ave From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
17:15	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
17:30	0	0	0	0	0	9	0	9	0	0	0	0	0	1	0	1	10
17:45	0	0	0	0	0	14	0	14	0	0	0	0	0	3	0	3	17
Total Volume	0	0	0	0	0	30	0	30	0	0	0	0	0	8	0	8	38
% App. Total	0	0	0	0	0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.536	.000	.536	.000	.000	.000	.000	.000	.667	.000	.667	.559

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00				17:00				16:00				17:00			
+0 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	4	0	4	0	1	0	1	0	3	0	3
+30 mins.	0	0	0	0	0	9	0	9	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	14	0	14	0	0	0	0	0	3	0	3
Total Volume	0	0	0	0	0	30	0	30	0	1	0	1	0	8	0	8
% App. Total	0	0	0	0	0	100	0	0	0	100	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.536	.000	.536	.000	.250	.000	.250	.000	.667	.000	.667

Accurate Counts 978-664-2565

Page 1

Location : Foster Street East of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16431

01300002A
Site Code: 01300002

Start Time	Tue A.M.	21-Oct-08 P.M.	Wed A.M.	22-Oct-08 P.M.	Thu A.M.	23-Oct-08 P.M.	Daily Average	
							A.M.	P.M.
12:00	1	18	0	7	1	*	1	12
12:15	4	13	2	8	*	*	3	10
12:30	0	11	1	14	*	*	0	12
12:45	0	3	1	12	*	*	0	8
01:00	1	11	0	7	*	*	0	9
01:15	0	13	1	7	*	*	0	10
01:30	1	7	0	14	*	*	0	10
01:45	0	8	0	3	*	*	0	6
02:00	0	15	0	9	*	*	0	12
02:15	0	10	1	7	*	*	0	8
02:30	0	11	0	16	*	*	0	14
02:45	0	18	0	14	*	*	0	16
03:00	0	16	0	12	*	*	0	14
03:15	0	11	0	5	*	*	0	8
03:30	0	21	0	12	*	*	0	16
03:45	0	14	0	9	*	*	0	12
04:00	0	21	1	15	*	*	0	18
04:15	0	20	0	8	*	*	0	14
04:30	0	12	0	24	*	*	0	18
04:45	1	14	0	15	*	*	0	14
05:00	1	24	1	10	*	*	1	17
05:15	0	17	3	20	*	*	2	18
05:30	1	25	0	20	*	*	0	22
05:45	0	28	0	17	*	*	0	22
06:00	1	17	3	22	*	*	2	20
06:15	3	13	1	25	*	*	2	19
06:30	7	11	5	14	*	*	6	12
06:45	6	5	4	15	*	*	5	10
07:00	6	3	12	13	*	*	9	8
07:15	25	6	21	13	*	*	23	10
07:30	26	10	18	15	*	*	22	12
07:45	23	3	28	4	*	*	26	4
08:00	29	11	25	5	*	*	27	8
08:15	26	8	24	1	*	*	25	4
08:30	36	7	31	7	*	*	34	7
08:45	30	4	33	4	*	*	32	4
09:00	28	3	22	10	*	*	25	6
09:15	15	2	14	5	*	*	14	4
09:30	13	3	1	6	*	*	7	4
09:45	14	2	7	2	*	*	10	2
10:00	16	2	13	3	*	*	14	2
10:15	14	6	7	5	*	*	10	6
10:30	7	1	15	1	*	*	11	1
10:45	8	3	13	2	*	*	10	2
11:00	9	5	16	2	*	*	12	4
11:15	11	0	7	1	*	*	9	0
11:30	3	0	6	4	*	*	4	2
11:45	8	1	6	1	*	*	7	1
Total	374	487	343	465	1	0	353	472
Combined Total	861		808		1		825	
Peak	08:00	05:00	08:00	05:30			08:00	05:30
Vol.	121	94	113	84			118	83
P.H.F.	0.840	0.839	0.856	0.840			0.868	0.943
ADT	ADT 834		AADT 834					

Accurate Counts 978-664-2565

Location : Foster Street East of
City/State: Massachusetts Avenue
Arlington, MA
Counter : 16431

01300002A
Site Code: 01300002

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	*	5	4	*	*	4	*	*	4
01:00	*	2	1	*	*	2	*	*	2
02:00	*	0	1	*	*	0	*	*	0
03:00	*	0	0	*	*	0	*	*	0
04:00	*	1	1	*	*	1	*	*	1
05:00	*	2	4	*	*	3	*	*	3
06:00	*	17	13	*	*	15	*	*	15
07:00	*	80	79	*	*	80	*	*	80
08:00	*	121	113	*	*	117	*	*	117
09:00	*	70	44	*	*	57	*	*	57
10:00	*	45	48	*	*	46	*	*	46
11:00	*	31	35	*	*	33	*	*	33
12:00 PM	*	45	41	*	*	43	*	*	43
01:00	*	39	31	*	*	35	*	*	35
02:00	*	54	46	*	*	50	*	*	50
03:00	*	62	38	*	*	50	*	*	50
04:00	*	67	62	*	*	64	*	*	64
05:00	*	94	67	*	*	80	*	*	80
06:00	*	46	76	*	*	61	*	*	61
07:00	*	22	45	*	*	34	*	*	34
08:00	*	30	17	*	*	24	*	*	24
09:00	*	10	23	*	*	16	*	*	16
10:00	*	12	11	*	*	12	*	*	12
11:00	*	6	8	*	*	7	*	*	7
Day Total	0	861	808	0	0	834	0	0	834
% Avg. WkDay	0.0%	103.2%	96.9%	0.0%	0.0%	100.0%	0.0%	0.0%	
% Avg. Week AM Peak Vol.	0.0%	08:00 121	08:00 113	0.0%	0.0%	08:00 117	0.0%	0.0%	08:00 117
PM Peak Vol.		17:00 94	18:00 76			17:00 80			17:00 80
Grand Total	0	861	808	0	0	834	0	0	834
ADT			ADT 834		AADT 834				

Accurate Counts
978-664-2565

Page 1

Location : Teel Street East of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13735

01300007A
Site Code: 01300007

Start Time	21-Oct-08 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	4			0	2				
12:15		1	5			2	2				
12:30		0	3			0	3				
12:45		0	4	1	16	0	4	2	11	3	27
01:00		0	6			0	1				
01:15		1	4			0	3				
01:30		0	2			0	5				
01:45		1	4	2	16	0	2	0	11	2	27
02:00		0	1			1	5				
02:15		0	2			0	7				
02:30		0	8			2	8				
02:45		0	4	0	15	0	0	3	20	3	35
03:00		0	5			0	1				
03:15		0	8			0	5				
03:30		0	3			0	1				
03:45		0	2	0	18	0	2	0	9	0	27
04:00		1	1			0	1				
04:15		0	0			1	0				
04:30		0	9			0	6				
04:45		1	2	2	12	0	4	1	11	3	23
05:00		0	5			0	5				
05:15		0	4			0	6				
05:30		1	6			1	1				
05:45		0	6	1	21	0	2	1	14	2	35
06:00		1	4			1	4				
06:15		1	3			1	1				
06:30		1	9			2	7				
06:45		0	11	3	27	4	1	8	13	11	40
07:00		5	5			8	4				
07:15		2	1			5	3				
07:30		0	4			8	0				
07:45		4	7	11	17	3	2	24	9	35	26
08:00		4	3			9	3				
08:15		6	4			6	2				
08:30		5	1			9	1				
08:45		4	5	19	13	2	0	26	6	45	19
09:00		3	3			2	1				
09:15		1	1			2	0				
09:30		2	4			3	3				
09:45		1	1	7	9	3	1	10	5	17	14
10:00		1	2			6	0				
10:15		2	1			7	1				
10:30		6	1			2	1				
10:45		5	2	14	6	2	0	17	2	31	8
11:00		2	0			2	0				
11:15		0	0			6	0				
11:30		2	0			4	0				
11:45		3	0	7	0	2	1	14	1	21	1
Total		67	170			106	112			173	282
Percent		28.3%	71.7%			48.6%	51.4%			38.0%	62.0%

Accurate Counts 978-664-2565

Page 2

Location : Teel Street East of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13735

01300007A
Site Code: 01300007

Start Time	22-Oct-08 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	3			0	2				
12:15		0	1			0	3				
12:30		0	1			0	3				
12:45		2	3	2	8	0	3	0	11	2	19
01:00		0	5			0	3				
01:15		0	3			1	1				
01:30		0	0			0	3				
01:45		2	5	2	13	0	5	1	12	3	25
02:00		0	5			0	4				
02:15		0	3			2	1				
02:30		0	8			1	3				
02:45		0	2	0	18	0	3	3	11	3	29
03:00		0	2			0	6				
03:15		0	1			0	0				
03:30		0	5			1	3				
03:45		0	5	0	13	0	1	1	10	1	23
04:00		0	7			0	1				
04:15		0	4			0	3				
04:30		0	3			0	2				
04:45		0	2	0	16	0	2	0	8	0	24
05:00		1	2			0	5				
05:15		0	3			0	2				
05:30		0	8			0	3				
05:45		1	2	2	15	1	2	1	12	3	27
06:00		0	5			0	0				
06:15		2	7			0	3				
06:30		0	10			0	2				
06:45		0	6	2	28	5	5	5	10	7	38
07:00		10	4			8	7				
07:15		1	4			6	5				
07:30		0	6			9	1				
07:45		3	5	14	19	4	4	27	17	41	36
08:00		4	2			10	1				
08:15		3	2			3	1				
08:30		6	2			6	0				
08:45		4	2	17	8	6	2	25	4	42	12
09:00		5	2			2	1				
09:15		5	1			4	0				
09:30		2	1			3	0				
09:45		3	3	15	7	6	0	15	1	30	8
10:00		2	1			1	0				
10:15		3	0			1	0				
10:30		4	2			3	1				
10:45		1	0	10	3	2	0	7	1	17	4
11:00		2	1			2	0				
11:15		2	1			3	0				
11:30		1	1			3	0				
11:45		4	0	9	3	4	0	12	0	21	3
Total		73	151			97	97			170	248
Percent		32.6%	67.4%			50.0%	50.0%			40.7%	59.3%
Grand Total		140	321			203	209			343	530
Percent		30.4%	69.6%			49.3%	50.7%			39.3%	60.7%
ADT		ADT 436				AADT 436					

013000007A
Site Code: 01300007

omb.	0	455	418	0	0	0	437
Total							
ADT	ADT 436	AADT 436					

Accurate Counts 978-664-2565

Page 1

Location : Thorndike Street West of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140

01300006A
Site Code: 01300006

Start Time	Tue 21-Oct-08		Wed 22-Oct-08		Thu 23-Oct-08		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	1	6	4	8	0	*	2	7
12:15	1	5	1	7	*	*	1	6
12:30	0	4	1	7	*	*	0	6
12:45	0	6	0	6	*	*	0	6
01:00	0	3	1	4	*	*	0	4
01:15	1	5	0	2	*	*	0	4
01:30	1	10	0	9	*	*	0	10
01:45	0	3	1	13	*	*	0	8
02:00	0	12	0	6	*	*	0	9
02:15	0	9	0	4	*	*	0	6
02:30	0	2	0	5	*	*	0	4
02:45	0	4	1	4	*	*	0	4
03:00	0	10	0	11	*	*	0	10
03:15	0	12	0	8	*	*	0	10
03:30	0	10	0	5	*	*	0	8
03:45	0	8	0	5	*	*	0	6
04:00	0	3	0	9	*	*	0	6
04:15	0	6	0	7	*	*	0	6
04:30	1	10	0	8	*	*	0	9
04:45	0	10	0	8	*	*	0	9
05:00	0	10	1	8	*	*	0	9
05:15	2	10	3	7	*	*	2	8
05:30	0	13	0	16	*	*	0	14
05:45	1	15	3	8	*	*	2	12
06:00	7	15	3	8	*	*	5	12
06:15	1	10	2	6	*	*	2	8
06:30	1	9	4	10	*	*	2	10
06:45	4	7	4	5	*	*	4	6
07:00	4	11	9	7	*	*	6	9
07:15	14	11	12	6	*	*	13	8
07:30	11	11	4	8	*	*	8	10
07:45	9	5	12	3	*	*	10	4
08:00	20	5	21	10	*	*	20	8
08:15	13	2	13	6	*	*	13	4
08:30	12	2	8	9	*	*	10	6
08:45	7	2	8	6	*	*	8	4
09:00	11	11	12	5	*	*	12	8
09:15	7	2	4	2	*	*	6	2
09:30	11	7	5	3	*	*	8	5
09:45	10	0	12	3	*	*	11	2
10:00	7	4	5	4	*	*	6	4
10:15	2	1	5	3	*	*	4	2
10:30	9	1	3	2	*	*	6	2
10:45	3	1	6	3	*	*	4	2
11:00	8	0	8	1	*	*	8	0
11:15	7	1	4	1	*	*	6	1
11:30	7	2	3	0	*	*	5	1
11:45	5	0	5	2	*	*	5	1
Total	198	306	188	288	0	0	189	300
Combined Total	504		476		0		489	
Peak	07:15	05:15	07:45	04:45			07:45	05:15
Vol.	54	53	54	39			53	46
P.H.F.	0.675	0.883	0.643	0.609			0.663	0.821
ADT	ADT 490		AADT 490					

Accurate Counts 978-664-2565

Location : Thorndike Street West of
City/State: Massachusetts Avenue
Counter : 18140

01300006A
Site Code: 01300006

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	*	2	6	*	*	4	*	*	4
01:00	*	2	2	*	*	2	*	*	2
02:00	*	0	1	*	*	0	*	*	0
03:00	*	0	0	*	*	0	*	*	0
04:00	*	1	0	*	*	0	*	*	0
05:00	*	3	7	*	*	5	*	*	5
06:00	*	13	13	*	*	13	*	*	13
07:00	*	38	37	*	*	38	*	*	38
08:00	*	52	50	*	*	51	*	*	51
09:00	*	39	33	*	*	36	*	*	36
10:00	*	21	19	*	*	20	*	*	20
11:00	*	27	20	*	*	24	*	*	24
12:00 PM	*	21	28	*	*	24	*	*	24
01:00	*	21	28	*	*	24	*	*	24
02:00	*	27	19	*	*	23	*	*	23
03:00	*	40	29	*	*	34	*	*	34
04:00	*	29	32	*	*	30	*	*	30
05:00	*	48	39	*	*	44	*	*	44
06:00	*	41	29	*	*	35	*	*	35
07:00	*	38	24	*	*	31	*	*	31
08:00	*	11	31	*	*	21	*	*	21
09:00	*	20	13	*	*	16	*	*	16
10:00	*	7	12	*	*	10	*	*	10
11:00	*	3	4	*	*	4	*	*	4
Day Total	0	504	476	0	0	489	0	0	489
% Avg. WkDay	0.0%	103.1%	97.3%	0.0%	0.0%				
% Avg. Week	0.0%	103.1%	97.3%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.		08:00	08:00			08:00			08:00
		52	50			51			51
PM Peak Vol.		17:00	17:00			17:00			17:00
		48	39			44			44
Grand Total	0	504	476	0	0	489	0	0	489
ADT			ADT 490		AADT 490				

Accurate Counts 978-664-2565

Page 1

Location : Lake Street West of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13866

01300004A
Site Code: 01300004

Start Time	21-Oct-08 Tue	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	49			8	59				
12:15		2	41			5	52				
12:30		0	38			3	75				
12:45		5	41	11	169	5	64	21	250	32	419
01:00		9	43			7	58				
01:15		5	38			7	72				
01:30		4	48			4	65				
01:45		0	43	18	172	3	55	21	250	39	422
02:00		1	59			3	68				
02:15		1	62			3	63				
02:30		1	41			0	83				
02:45		1	54	4	216	1	80	7	294	11	510
03:00		1	47			2	105				
03:15		1	65			0	102				
03:30		2	63			2	105				
03:45		3	55	7	230	1	98	5	410	12	640
04:00		1	51			0	126				
04:15		1	65			4	98				
04:30		1	53			0	119				
04:45		5	58	8	227	3	122	7	465	15	692
05:00		10	53			3	129				
05:15		11	78			7	112				
05:30		8	70			8	139				
05:45		18	71	47	272	7	132	25	512	72	784
06:00		18	70			10	121				
06:15		34	59			24	149				
06:30		49	62			31	136				
06:45		73	53	174	244	52	123	117	529	291	773
07:00		82	55			86	97				
07:15		110	53			107	89				
07:30		92	49			113	72				
07:45		120	47	404	204	121	64	427	322	831	526
08:00		102	38			111	46				
08:15		80	36			105	40				
08:30		100	33			112	45				
08:45		66	41	348	148	95	42	423	173	771	321
09:00		91	23			125	45				
09:15		87	19			87	32				
09:30		49	24			82	38				
09:45		47	23	274	89	79	28	373	143	647	232
10:00		38	27			103	20				
10:15		52	23			54	23				
10:30		43	12			54	23				
10:45		51	8	184	70	47	12	258	78	442	148
11:00		43	13			52	14				
11:15		63	9			49	15				
11:30		38	9			48	13				
11:45		47	5	191	36	53	7	202	49	393	85
Total		1670	2077			1886	3475			3556	5552
Percent		44.6%	55.4%			35.2%	64.8%			39.0%	61.0%

Accurate Counts 978-664-2565

Page 2

Location : Lake Street West of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13866

01300004A
Site Code: 01300004

Start Time	22-Oct-08 Wed	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		6	41			3	61				
12:15		3	42			6	70				
12:30		3	43			6	59				
12:45		2	50	14	176	2	65	17	255	31	431
01:00		1	57			0	64				
01:15		6	58			1	56				
01:30		4	33			2	60				
01:45		1	30	12	178	2	67	5	247	17	425
02:00		3	52			2	60				
02:15		3	46			3	81				
02:30		1	59			0	84				
02:45		1	45	8	202	0	72	5	297	13	499
03:00		0	46			1	97				
03:15		1	55			0	98				
03:30		0	52			1	102				
03:45		1	48	2	201	2	80	4	377	6	578
04:00		1	40			1	105				
04:15		0	71			5	116				
04:30		2	51			2	118				
04:45		7	53	10	215	2	115	10	454	20	669
05:00		4	67			3	124				
05:15		7	62			8	131				
05:30		10	70			11	142				
05:45		14	61	35	260	8	110	30	507	65	767
06:00		17	61			9	130				
06:15		36	53			16	115				
06:30		44	49			35	118				
06:45		59	57	156	220	58	86	118	449	274	669
07:00		72	48			82	102				
07:15		84	38			94	89				
07:30		111	45			102	75				
07:45		96	53	363	184	117	59	395	325	758	509
08:00		98	30			101	55				
08:15		92	54			108	50				
08:30		81	33			121	55				
08:45		89	40	360	157	104	46	434	206	794	363
09:00		85	38			129	42				
09:15		92	49			79	46				
09:30		59	23			97	38				
09:45		61	26	297	136	80	29	385	155	682	291
10:00		54	28			79	31				
10:15		52	20			60	21				
10:30		29	18			61	14				
10:45		39	14	174	80	53	10	253	76	427	156
11:00		40	6			49	19				
11:15		52	9			61	20				
11:30		40	9			49	13				
11:45		34	8	166	32	64	10	223	62	389	94
Total		1597	2041			1879	3410			3476	5451
Percent		43.9%	56.1%			35.5%	64.5%			38.9%	61.1%
Grand Total		3267	4118			3765	6885			7032	11003
Percent		44.2%	55.8%			35.4%	64.6%			39.0%	61.0%
ADT		ADT 9,018				AADT 9,018					

Accurate Counts

978-664-2565

Page 1

Location : Massachusetts Avenue NB
 Location : South of Thorndike Street
 City/State: Arlington, MA
 Counter : 13867

Site Code: 01300005
 013000v5a

Start Time	21-Oct-08 Tue	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		22	130			19	121				
12:15		15	118			12	128				
12:30		14	130			14	122				
12:45		13	110	64	488	6	121	51	492	115	980
01:00		10	118			2	108				
01:15		10	109			5	122				
01:30		5	143			4	123				
01:45		7	141	32	511	5	116	16	469	48	980
02:00		6	126			4	100				
02:15		10	121			4	103				
02:30		2	142			5	156				
02:45		3	146	21	535	3	109	16	468	37	1003
03:00		3	131			3	144				
03:15		5	162			2	164				
03:30		5	168			1	156				
03:45		1	166	14	627	2	159	8	623	22	1250
04:00		1	158			3	140				
04:15		2	173			4	152				
04:30		2	154			2	146				
04:45		1	192	6	677	4	161	13	599	19	1276
05:00		4	197			21	164				
05:15		10	222			17	168				
05:30		15	222			28	188				
05:45		13	205	42	846	36	190	102	710	144	1556
06:00		25	199			44	184				
06:15		34	186			60	204				
06:30		32	194			70	209				
06:45		60	192	151	771	132	154	306	751	457	1522
07:00		77	212			156	126				
07:15		116	154			214	142				
07:30		162	130			221	110				
07:45		148	133	503	629	224	104	815	482	1318	1111
08:00		174	104			226	102				
08:15		171	112			190	87				
08:30		140	98			156	74				
08:45		170	97	655	411	187	86	759	349	1414	760
09:00		130	108			207	84				
09:15		104	80			196	68				
09:30		119	78			136	66				
09:45		90	80	443	346	153	80	692	298	1135	644
10:00		90	84			158	57				
10:15		104	71			143	42				
10:30		98	44			121	46				
10:45		132	40	424	239	102	30	524	175	948	414
11:00		89	33			128	38				
11:15		132	47			118	27				
11:30		123	36			116	22				
11:45		104	28	448	144	104	18	466	105	914	249
Total		2803	6224			3768	5521			6571	11745
Percent		31.1%	68.9%			40.6%	59.4%			35.9%	64.1%

Accurate Counts 978-664-2565

Page 2

Location : Massachusetts Avenue NB
Location : South of Thorndike Street
City/State: Arlington, MA
Counter : 13867

Site Code: 01300005
013000v5a

Start Time	22-Oct-08 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		19	112			9	122				
12:15		22	121			17	114				
12:30		13	119			17	102				
12:45		13	129	67	481	6	118	49	456	116	937
01:00		10	134			9	125				
01:15		13	142			7	92				
01:30		8	132			6	112				
01:45		6	145	37	553	3	128	25	457	62	1010
02:00		6	134			5	116				
02:15		3	150			3	122				
02:30		4	164			2	123				
02:45		6	139	19	587	4	139	14	500	33	1087
03:00		3	150			4	112				
03:15		4	166			1	145				
03:30		0	190			5	164				
03:45		2	196	9	702	2	142	12	563	21	1265
04:00		2	156			6	144				
04:15		4	197			10	122				
04:30		3	204			1	148				
04:45		4	225	13	782	3	156	20	570	33	1352
05:00		3	206			16	152				
05:15		8	217			22	150				
05:30		17	218			21	184				
05:45		14	232	42	873	47	180	106	666	148	1539
06:00		18	206			30	172				
06:15		24	190			61	166				
06:30		43	198			76	156				
06:45		72	206	157	800	126	134	293	628	450	1428
07:00		70	211			154	150				
07:15		112	173			218	114				
07:30		144	156			255	96				
07:45		172	150	498	690	252	109	879	469	1377	1159
08:00		164	147			190	94				
08:15		160	108			196	96				
08:30		175	102			160	82				
08:45		122	90	621	447	187	68	733	340	1354	787
09:00		129	136			158	62				
09:15		120	85			192	82				
09:30		120	123			162	74				
09:45		105	109	474	453	149	70	661	288	1135	741
10:00		98	76			145	76				
10:15		112	76			130	50				
10:30		108	74			119	30				
10:45		92	36	410	262	114	46	508	202	918	464
11:00		120	48			101	33				
11:15		112	42			141	31				
11:30		120	38			105	28				
11:45		114	41	466	169	138	27	485	119	951	288
Total		2813	6799			3785	5258			6598	12057
Percent		29.3%	70.7%			41.9%	58.1%			35.4%	64.6%
Grand Total		5616	13023			7553	10779			13169	23802
Percent		30.1%	69.9%			41.2%	58.8%			35.6%	64.4%

ADT

ADT 18,486

AADT 18,486

Accurate Counts
978-664-2565

Location : Massachusetts Avenue NB
Location : South of Thorndike Street
City/State: Arlington, MA
Counter : 13867

Site Code: 01300005
013000v5a

[illegible]

Accurate Counts
978-664-2565

Page 1

Location : Massachusetts Avenue North
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 15841

01300000A
Site Code: 0130000

Start Time	21-Oct-08 Tue	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	101			25	96				
12:15		10	111			18	77				
12:30		13	109			11	115				
12:45		7	98	47	419	12	111	66	399	113	818
01:00		2	93			17	104				
01:15		6	117			10	81				
01:30		3	117			7	104				
01:45		4	101	15	428	7	133	41	422	56	850
02:00		4	101			4	120				
02:15		2	88			8	101				
02:30		5	124			5	109				
02:45		2	100	13	413	3	124	20	454	33	867
03:00		3	124			4	113				
03:15		2	133			3	118				
03:30		1	118			6	119				
03:45		1	116	7	491	2	133	15	483	22	974
04:00		5	116			1	129				
04:15		4	141			2	157				
04:30		2	127			3	145				
04:45		2	120	13	504	1	146	7	577	20	1081 1658
05:00		20	125			2	139				
05:15		16	126			10	135				
05:30		27	132			13	138				
05:45		35	145	98	528	7	151	32	563	130	1091 1654
06:00		42	131			23	172				
06:15		56	169			28	145				
06:30		72	134			37	139				
06:45		117	140	287	574	50	143	138	599	425	1173
07:00		143	108			61	181				
07:15		163	105			73	139				
07:30		149	101			93	112				
07:45		175	99	630	413	82	125	309	557	939 1248	970
08:00		121	82			89	99				
08:15		142	92			77	109				
08:30		50	69			61	97				
08:45		88	72	401	315	70	91	297	396	698 995	711
09:00		155	89			84	75				
09:15		155	57			68	96				
09:30		124	69			107	78				
09:45		134	72	568	287	97	67	356	316	924	603
10:00		130	52			79	77				
10:15		123	41			84	74				
10:30		109	40			86	54				
10:45		86	37	448	170	117	41	366	246	814	416
11:00		112	32			93	35				
11:15		111	30			101	40				
11:30		107	21			129	33				
11:45		92	18	422	101	85	36	408	144	830	245
Total		2949	4643			2055	5156			5004	9799
Percent		38.8%	61.2%			28.5%	71.5%			33.8%	66.2%

Accurate Counts 978-664-2565

Page 2

Location : Massachusetts Avenue North
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 15841

01300000A
Site Code: 0130000

Start Time	22-Oct-08 Wed	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	94			20	107				
12:15		13	104			24	110				
12:30		23	90			20	93				
12:45		7	105	51	393	14	118	78	428	129	821
01:00		9	98			9	103				
01:15		6	100			14	128				
01:30		5	97			13	112				
01:45		3	102	23	397	6	103	42	446	65	843
02:00		4	99			4	131				
02:15		4	112			5	114				
02:30		2	101			6	124				
02:45		3	123	13	435	6	109	21	478	34	913
03:00		4	90			3	118				
03:15		1	113			6	121				
03:30		5	118			2	115				
03:45		1	121	11	442	1	151	12	505	23	947
04:00		5	106			1	106				
04:15		11	117			4	138				
04:30		1	119			3	159				
04:45		2	126	19	468	2	131	10	534	29	1002 1516
05:00		17	115			3	166				
05:15		17	128			5	142				
05:30		21	136			13	139				
05:45		44	142	99	521	14	142	35	589	134	1110 1679
06:00		27	141			20	145				
06:15		54	150			21	130				
06:30		69	132			36	123				
06:45		99	109	249	532	50	159	127	557	376	1089
07:00		135	101			79	166				
07:15		160	113			58	145				
07:30		198	80			92	117				
07:45		190	85	683	379	114	126	343	554	1026 1369	933
08:00		153	79			96	119				
08:15		125	97			69	113				
08:30		79	59			62	74				
08:45		78	72	435	307	69	91	296	397	731 1027	704
09:00		88	54			65	86				
09:15		125	85			83	90				
09:30		140	70			94	77				
09:45		124	68	477	277	106	91	348	344	825	621
10:00		124	74			83	92				
10:15		118	57			101	60				
10:30		110	28			85	67				
10:45		100	40	452	199	100	55	369	274	821	473
11:00		91	33			83	43				
11:15		132	32			97	30				
11:30		92	26			110	44				
11:45		133	32	448	123	99	37	389	154	837	277
Total		2960	4473			2070	5260			5030	9733
Percent		39.8%	60.2%			28.2%	71.8%			34.1%	65.9%
Grand Total		5909	9116			4125	10416			10034	19532
Percent		39.3%	60.7%			28.4%	71.6%			33.9%	66.1%

ADT

ADT 14,783

AADT 14,783

$\bar{x} = PM \text{ PEAK} = 1677$

$\bar{x} = AM \text{ PEAK} = 1309$

Accurate Counts
978-664-2565

Page 1

Location : Massachusetts Avenue SB
Location : South of Thorndike Street
City/State: Arlington, MA
Counter : 10122

0130NBV5A
Site Code: 01300005

Start Time	Tue A.M.	21-Oct-08 P.M.	Wed A.M.	22-Oct-08 P.M.	Thu A.M.	23-Oct-08 P.M.	Daily Average	
							A.M.	P.M.
12:00	19	115	9	117	0	*	9	116
12:15	12	120	19	109	*	*	16	114
12:30	14	116	17	101	*	*	16	108
12:45	6	118	6	115	*	*	6	116
01:00	2	108	9	123	*	*	6	116
01:15	5	121	7	92	*	*	6	106
01:30	4	116	5	110	*	*	4	113
01:45	5	110	3	119	*	*	4	114
02:00	4	101	5	108	*	*	4	104
02:15	4	100	3	116	*	*	4	108
02:30	5	136	2	115	*	*	4	126
02:45	3	105	3	123	*	*	3	114
03:00	3	131	4	102	*	*	4	116
03:15	2	144	1	135	*	*	2	140
03:30	1	139	5	143	*	*	3	141
03:45	2	153	3	132	*	*	2	142
04:00	3	140	6	133	*	*	4	136
04:15	4	149	11	116	*	*	8	132
04:30	2	139	1	145	*	*	2	142
04:45	4	156	3	153	*	*	4	154
05:00	21	160	16	146	*	*	18	153
05:15	18	157	22	146	*	*	20	152
05:30	26	166	21	151	*	*	24	158
05:45	36	165	47	171	*	*	42	168
06:00	42	166	29	148	*	*	36	157
06:15	61	183	58	156	*	*	60	170
06:30	70	198	73	144	*	*	72	171
06:45	126	142	122	122	*	*	124	132
07:00	142	121	146	136	*	*	144	128
07:15	168	127	172	111	*	*	170	119
07:30	180	106	220	97	*	*	200	102
07:45	130	105	202	104	*	*	166	104
08:00	116	101	93	90	*	*	104	96
08:15	92	86	60	94	*	*	76	90
08:30	59	74	95	81	*	*	77	78
08:45	73	85	89	69	*	*	81	77
09:00	166	80	74	62	*	*	120	71
09:15	167	67	139	84	*	*	153	76
09:30	120	65	134	75	*	*	127	70
09:45	149	79	142	69	*	*	146	74
10:00	153	53	139	76	*	*	146	64
10:15	130	44	126	48	*	*	128	46
10:30	110	47	102	30	*	*	106	38
10:45	99	30	115	46	*	*	107	38
11:00	125	40	95	36	*	*	110	38
11:15	114	27	130	30	*	*	122	28
11:30	109	22	98	29	*	*	104	26
11:45	101	19	130	29	*	*	116	24
Total	3007	5232	3011	4987	0	0	3010	5106
Combined Total	8239		7998		0		8116	
Peak	07:00	05:45	07:00	05:30			07:00	05:45
Vol.	620	712	740	626			680	666
P.H.F.	0.861	0.899	0.841	0.915			0.850	0.974
ADT	ADT 8,118		AADT 8,118					

Accurate Counts 978-664-2565

Location : Massachusetts Avenue SB
Location : South of Thorndike Street
City/State: Arlington, MA
Counter : 10122

0130NBV5A
Site Code: 01300005

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	51	51	51	*	*	51	*	*	51
01:00	16	16	24	*	*	20	*	*	20
02:00	16	16	13	*	*	14	*	*	14
03:00	8	8	13	*	*	10	*	*	10
04:00	13	13	21	*	*	17	*	*	17
05:00	101	106	106	*	*	104	*	*	104
06:00	299	282	282	*	*	290	*	*	290
07:00	620	740	740	*	*	680	*	*	680
08:00	340	337	337	*	*	338	*	*	338
09:00	602	489	489	*	*	546	*	*	546
10:00	492	482	482	*	*	487	*	*	487
11:00	449	453	453	*	*	451	*	*	451
12:00 PM	469	442	442	*	*	456	*	*	456
01:00	455	444	444	*	*	450	*	*	450
02:00	442	462	462	*	*	452	*	*	452
03:00	567	512	512	*	*	540	*	*	540
04:00	584	547	547	*	*	566	*	*	566
05:00	648	614	614	*	*	631	*	*	631
06:00	689	570	570	*	*	630	*	*	630
07:00	459	448	448	*	*	454	*	*	454
08:00	346	334	334	*	*	340	*	*	340
09:00	291	290	290	*	*	290	*	*	290
10:00	174	200	200	*	*	187	*	*	187
11:00	108	124	124	*	*	116	*	*	116
Day Total	0	8239	7998	0	0	8120	0	0	8120
% Avg. WkDay	0.0%	101.5%	98.5%	0.0%	0.0%				
% Avg. Week	0.0%	101.5%	98.5%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.	07:00	07:00	07:00			07:00			07:00
	620	740	740			680			680
PM Peak Vol.	18:00	17:00	17:00			17:00			17:00
	689	614	614			631			631
Grand Total	0	8239	7998	0	0	8120	0	0	8120
ADT	ADT 8,118		AADT 8,118						

Accurate Counts
978-664-2565

Page 1

Location : Massachusetts Avenue SB
Location : South of Lake Street
City/State: Arlington, MA
Counter : 18142

01300nb3a
Site Code: 01300003

Start Time	Tue 21-Oct-08		Wed 22-Oct-08		Thu 23-Oct-08		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	19	85	20	102	3	*	14	94
12:15	17	97	24	99	*	*	20	98
12:30	6	103	15	111	*	*	10	107
12:45	17	94	12	85	*	*	14	90
01:00	11	105	13	26	*	*	12	66
01:15	12	101	11	36	*	*	12	68
01:30	5	111	11	101	*	*	8	106
01:45	4	96	8	105	*	*	6	100
02:00	7	105	5	105	*	*	6	105
02:15	8	98	5	112	*	*	6	105
02:30	1	93	4	120	*	*	2	106
02:45	4	126	4	109	*	*	4	118
03:00	4	83	4	126	*	*	4	104
03:15	1	84	3	82	*	*	2	83
03:30	4	97	1	105	*	*	2	101
03:45	3	101	1	90	*	*	2	96
04:00	3	116	2	100	*	*	2	108
04:15	4	124	5	106	*	*	4	115
04:30	4	111	7	90	*	*	6	100
04:45	4	112	6	109	*	*	5	110
05:00	7	105	6	100	*	*	6	102
05:15	14	103	15	104	*	*	14	104
05:30	22	114	23	117	*	*	22	116
05:45	15	106	18	125	*	*	16	116
06:00	30	100	29	99	*	*	30	100
06:15	48	113	42	110	*	*	45	112
06:30	55	123	58	141	*	*	56	132
06:45	82	123	80	142	*	*	81	132
07:00	95	98	85	95	*	*	90	96
07:15	101	87	100	102	*	*	100	94
07:30	78	87	98	107	*	*	88	97
07:45	99	103	72	99	*	*	86	101
08:00	82	93	90	107	*	*	86	100
08:15	86	85	98	86	*	*	92	86
08:30	102	90	76	82	*	*	89	86
08:45	88	86	95	62	*	*	92	74
09:00	84	81	93	104	*	*	88	92
09:15	91	76	97	76	*	*	94	76
09:30	104	75	114	84	*	*	109	80
09:45	107	66	97	78	*	*	102	72
10:00	87	62	87	73	*	*	87	68
10:15	105	63	104	50	*	*	104	56
10:30	91	37	80	47	*	*	86	42
10:45	109	34	101	45	*	*	105	40
11:00	104	29	88	35	*	*	96	32
11:15	99	37	101	28	*	*	100	32
11:30	105	23	97	35	*	*	101	29
11:45	94	29	94	30	*	*	94	30
Total	2322	4270	2299	4282	3	0	2300	4277
Combined Total	6592		6581		3		6577	
Peak	10:45	04:00	09:30	06:00			09:30	06:00
Vol.	417	463	402	492			402	476
P.H.F.	0.956	0.933	0.882	0.866			0.922	0.902
ADT	ADT 6,586		AADT 6,586					

Accurate Counts 978-664-2565

Location : Massachusetts Avenue SB
 Location : South of Lake Street
 City/State: Arlington, MA
 Counter : 18142

01300nb3a
 Site Code: 013000003

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	*	59	71	*	*	65	*	*	65
01:00	*	32	43	*	*	38	*	*	38
02:00	*	20	18	*	*	19	*	*	19
03:00	*	12	9	*	*	10	*	*	10
04:00	*	15	20	*	*	18	*	*	18
05:00	*	58	62	*	*	60	*	*	60
06:00	*	215	209	*	*	212	*	*	212
07:00	*	373	355	*	*	364	*	*	364
08:00	*	358	359	*	*	358	*	*	358
09:00	*	386	401	*	*	394	*	*	394
10:00	*	392	372	*	*	382	*	*	382
11:00	*	402	380	*	*	391	*	*	391
12:00 PM	*	379	397	*	*	388	*	*	388
01:00	*	413	268	*	*	340	*	*	340
02:00	*	422	446	*	*	434	*	*	434
03:00	*	365	403	*	*	384	*	*	384
04:00	*	463	405	*	*	434	*	*	434
05:00	*	428	446	*	*	437	*	*	437
06:00	*	459	492	*	*	476	*	*	476
07:00	*	375	403	*	*	389	*	*	389
08:00	*	354	337	*	*	346	*	*	346
09:00	*	298	342	*	*	320	*	*	320
10:00	*	196	215	*	*	206	*	*	206
11:00	*	118	128	*	*	123	*	*	123
Day Total	0	6592	6581	0	0	6588	0	0	6588
% Avg. WkDay	0.0%	100.1%	99.9%	0.0%	0.0%	100.0%	0.0%	0.0%	
% Avg. Week AM Peak	0.0%	100.1%	99.9%	0.0%	0.0%	100.0%	0.0%	0.0%	
Vol.		402	401			394			394
PM Peak		16:00	18:00			18:00			18:00
Vol.		463	492			476			476
Grand Total	0	6592	6581	0	0	6588	0	0	6588
ADT			ADT 6,586		AADT 6,586				

Accurate Counts 978-664-2565

Page 1

Location : Massachusetts Avenue South
Location : of Lake Street
City/State: Arlington, ma
Counter : 18142

Site Code: 01300003
01300V1A

Start Time	Tue A.M.	21-Oct-08 P.M.	Wed A.M.	22-Oct-08 P.M.	Thu A.M.	23-Oct-08 P.M.	Daily Average	
							A.M.	P.M.
12:00	20	106	20	124	*	*	20	115
12:15	18	128	24	118	*	*	21	123
12:30	6	140	14	133	*	*	10	136
12:45	17	114	12	134	*	*	14	124
01:00	11	135	13	38	*	*	12	86
01:15	12	122	11	46	*	*	12	84
01:30	5	156	10	144	*	*	8	150
01:45	4	132	8	136	*	*	6	134
02:00	7	150	5	128	*	*	6	139
02:15	8	128	5	149	*	*	6	138
02:30	1	134	4	154	*	*	2	144
02:45	4	160	4	150	*	*	4	155
03:00	4	148	4	162	*	*	4	155
03:15	1	165	3	166	*	*	2	166
03:30	4	168	1	170	*	*	2	169
03:45	3	162	1	174	*	*	2	168
04:00	3	154	2	146	*	*	2	150
04:15	4	164	5	182	*	*	4	173
04:30	4	161	8	178	*	*	6	170
04:45	4	182	6	194	*	*	5	188
05:00	7	188	6	170	*	*	6	179
05:15	14	222	16	193	*	*	15	208
05:30	22	201	22	182	*	*	22	192
05:45	15	216	18	200	*	*	16	208
06:00	30	204	30	200	*	*	30	202
06:15	49	190	42	194	*	*	46	192
06:30	59	173	58	166	*	*	58	170
06:45	90	174	90	193	*	*	90	184
07:00	102	182	94	178	*	*	98	180
07:15	120	166	118	150	*	*	119	158
07:30	164	136	148	131	*	*	156	134
07:45	138	129	148	150	*	*	143	140
08:00	150	114	144	130	*	*	147	122
08:15	164	102	159	105	*	*	162	104
08:30	144	102	162	91	*	*	153	96
08:45	124	102	131	76	*	*	128	89
09:00	131	92	127	120	*	*	129	106
09:15	116	88	126	77	*	*	121	82
09:30	130	84	128	95	*	*	129	90
09:45	132	73	128	84	*	*	130	78
10:00	106	66	110	79	*	*	108	72
10:15	120	70	115	60	*	*	118	65
10:30	110	40	100	50	*	*	105	45
10:45	128	33	125	44	*	*	126	38
11:00	112	29	105	38	*	*	108	34
11:15	135	40	134	29	*	*	134	34
11:30	148	24	118	36	*	*	133	30
11:45	116	28	121	32	*	*	118	30
Total	3016	6177	2983	6079	0	0	2996	6129
Combined Total	9193		9062		0		9125	
Peak	07:30	05:15	07:45	05:30			07:30	05:15
Vol.	616	843	613	776			608	810
P.H.F.	0.939	0.949	0.946	0.970			0.938	0.974
ADT		ADT 9,128	AADT 9,128					

Accurate Counts
978-664-2565

Page 1

Location : Massachusetts Avenue SB
Location : South of Lake Street
City/State: Arlington, MA
Counter : 16428

01300003A
Site Code: 01300003

Start Time	Tue A.M.	21-Oct-08 P.M.	Wed A.M.	22-Oct-08 P.M.	Thu A.M.	23-Oct-08 P.M.	Daily Average	
							A.M.	P.M.
12:00	27	132	14	123	2	*	14	128
12:15	12	131	21	120	*	*	16	126
12:30	12	121	16	102	*	*	14	112
12:45	5	131	6	111	*	*	6	121
01:00	4	102	6	126	*	*	5	114
01:15	9	122	7	120	*	*	8	121
01:30	3	121	5	119	*	*	4	120
01:45	10	137	5	109	*	*	8	123
02:00	2	118	6	125	*	*	4	122
02:15	4	112	1	133	*	*	2	122
02:30	3	137	5	122	*	*	4	130
02:45	2	131	1	124	*	*	2	128
03:00	4	139	2	149	*	*	3	144
03:15	1	151	4	143	*	*	2	147
03:30	1	160	5	156	*	*	3	158
03:45	4	169	4	126	*	*	4	148
04:00	6	133	8	146	*	*	7	140
04:15	5	163	10	146	*	*	8	154
04:30	2	160	2	169	*	*	2	164
04:45	12	184	7	134	*	*	10	159
05:00	15	188	10	178	*	*	12	183
05:15	26	210	32	200	*	*	29	205
05:30	30	196	37	195	*	*	34	196
05:45	43	195	42	170	*	*	42	182
06:00	39	208	34	196	*	*	36	202
06:15	78	204	67	201	*	*	72	202
06:30	93	213	87	194	*	*	90	204
06:45	142	174	146	149	*	*	144	162
07:00	153	137	178	168	*	*	166	152
07:15	165	154	190	144	*	*	178	149
07:30	210	111	202	100	*	*	206	106
07:45	206	114	196	124	*	*	201	119
08:00	146	125	155	105	*	*	150	115
08:15	147	96	160	112	*	*	154	104
08:30	157	89	194	103	*	*	176	96
08:45	187	81	162	77	*	*	174	79
09:00	160	109	164	70	*	*	162	90
09:15	113	86	135	108	*	*	124	97
09:30	143	72	164	84	*	*	154	78
09:45	139	75	144	83	*	*	142	79
10:00	137	70	142	82	*	*	140	76
10:15	121	47	119	49	*	*	120	48
10:30	123	56	120	39	*	*	122	48
10:45	132	40	117	46	*	*	124	43
11:00	121	34	113	38	*	*	117	36
11:15	111	37	98	45	*	*	104	41
11:30	101	24	118	33	*	*	110	28
11:45	117	9	128	27	*	*	122	18
Total	3483	5908	3589	5723	2	0	3531	5819
Combined Total	9391		9312		2		9350	
Peak	07:00	05:45	07:00	05:30			07:00	05:45
Vol.	734	820	766	762			751	790
P.H.F.	0.874	0.962	0.948	0.948			0.911	0.968
ADT	ADT 9,352		AADT 9,352					

Accurate Counts 978-664-2565

Location : Massachusetts Avenue SB
Location : South of Lake Street
City/State: Arlington, MA
Counter : 16428

01300003A
Site Code: 013000003

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	*	56	57	*	*	56	*	*	56
01:00	*	26	23	*	*	24	*	*	24
02:00	*	11	13	*	*	12	*	*	12
03:00	*	10	15	*	*	12	*	*	12
04:00	*	25	27	*	*	26	*	*	26
05:00	*	114	121	*	*	118	*	*	118
06:00	*	352	334	*	*	343	*	*	343
07:00	*	734	766	*	*	750	*	*	750
08:00	*	637	671	*	*	654	*	*	654
09:00	*	555	607	*	*	581	*	*	581
10:00	*	513	498	*	*	506	*	*	506
11:00	*	450	457	*	*	454	*	*	454
12:00 PM	*	515	456	*	*	486	*	*	486
01:00	*	482	474	*	*	478	*	*	478
02:00	*	498	504	*	*	501	*	*	501
03:00	*	619	574	*	*	596	*	*	596
04:00	*	640	595	*	*	618	*	*	618
05:00	*	789	743	*	*	766	*	*	766
06:00	*	799	740	*	*	770	*	*	770
07:00	*	516	536	*	*	526	*	*	526
08:00	*	391	397	*	*	394	*	*	394
09:00	*	342	345	*	*	344	*	*	344
10:00	*	213	216	*	*	214	*	*	214
11:00	*	104	143	*	*	124	*	*	124
Day Total	0	9391	9312	0	0	9353	0	0	9353
% Avg. WkDay	0.0%	100.4%	99.6%	0.0%	0.0%				
% Avg. Week	0.0%	100.4%	99.6%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.		07:00 734	07:00 766			07:00 750			07:00 750
PM Peak Vol.		18:00 799	17:00 743			18:00 770			18:00 770
Grand Total	0	9391	9312	0	0	9353	0	0	9353
ADT		ADT 9,352		AADT 9,352					

Accurate Counts **978-664-2565**

Page 1

Location : Massachusetts Avenue NB
Location : North of Lake Street
City/State: Arlington, MA
Counter : 18430

Site Code: 01300009
01300V9A

Start Time	Tue A.M.	21-Oct-08 P.M.	Wed A.M.	22-Oct-08 P.M.	Thu A.M.	23-Oct-08 P.M.	Daily Average	
							A.M.	P.M.
12:00	20	142	22	151	*	*	21	146
12:15	20	164	26	150	*	*	23	157
12:30	11	154	16	142	*	*	14	148
12:45	12	138	15	150	*	*	14	144
01:00	9	160	12	154	*	*	10	157
01:15	13	148	8	174	*	*	10	161
01:30	5	169	10	160	*	*	8	164
01:45	6	147	7	162	*	*	6	154
02:00	6	174	5	154	*	*	6	164
02:15	9	162	3	178	*	*	6	170
02:30	2	162	4	186	*	*	3	174
02:45	3	191	4	169	*	*	4	180
03:00	2	200	6	206	*	*	4	203
03:15	1	202	2	201	*	*	2	202
03:30	6	210	1	211	*	*	4	210
03:45	2	222	2	208	*	*	2	215
04:00	1	213	1	193	*	*	1	203
04:15	8	226	5	224	*	*	6	225
04:30	6	204	6	216	*	*	6	210
04:45	2	226	5	260	*	*	4	243
05:00	4	238	10	222	*	*	7	230
05:15	16	247	15	220	*	*	16	234
05:30	20	247	18	249	*	*	19	248
05:45	12	228	20	228	*	*	16	228
06:00	8	252	25	216	*	*	16	234
06:15	44	226	42	236	*	*	43	231
06:30	56	228	44	198	*	*	50	213
06:45	76	200	76	203	*	*	76	202
07:00	95	224	100	210	*	*	98	217
07:15	124	192	126	176	*	*	125	184
07:30	194	140	176	148	*	*	185	144
07:45	148	146	173	161	*	*	160	154
08:00	184	130	174	150	*	*	179	140
08:15	204	108	194	108	*	*	199	108
08:30	172	120	202	98	*	*	187	109
08:45	160	98	156	71	*	*	158	84
09:00	156	112	154	124	*	*	155	118
09:15	144	92	153	88	*	*	148	90
09:30	158	84	129	88	*	*	144	86
09:45	150	86	140	76	*	*	145	81
10:00	128	76	130	86	*	*	129	81
10:15	134	79	132	62	*	*	133	70
10:30	120	45	128	54	*	*	124	50
10:45	149	39	146	44	*	*	148	42
11:00	134	31	121	40	*	*	128	36
11:15	154	35	158	33	*	*	156	34
11:30	162	24	154	35	*	*	158	30
11:45	118	30	150	30	*	*	134	30
Total	3368	7371	3406	7303	0	0	3390	7338
Combined Total	10739		10709		0		10728	
Peak	07:30	05:15	07:45	04:45			07:45	04:45
Vol.	730	974	743	951			725	955
P.H.F.	0.895	0.966	0.920	0.914			0.911	0.963
ADT	ADT 10,724		AADT 10,724					

Accurate Counts 978-664-2565

Location : Massachusetts Avenue NB
 Location : North of Lake Street
 City/State: Arlington, MA
 Counter : 18430

Site Code: 01300009
 01300V9A

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	*	63	79	*	*	71	*	*	71
01:00	*	33	37	*	*	35	*	*	35
02:00	*	20	16	*	*	18	*	*	18
03:00	*	11	11	*	*	11	*	*	11
04:00	*	17	17	*	*	17	*	*	17
05:00	*	52	63	*	*	58	*	*	58
06:00	*	184	187	*	*	186	*	*	186
07:00	*	561	575	*	*	568	*	*	568
08:00	*	720	726	*	*	723	*	*	723
09:00	*	608	576	*	*	592	*	*	592
10:00	*	531	536	*	*	534	*	*	534
11:00	*	568	583	*	*	576	*	*	576
12:00 PM	*	598	593	*	*	596	*	*	596
01:00	*	624	650	*	*	637	*	*	637
02:00	*	689	687	*	*	688	*	*	688
03:00	*	834	826	*	*	830	*	*	830
04:00	*	869	893	*	*	881	*	*	881
05:00	*	960	919	*	*	940	*	*	940
06:00	*	906	853	*	*	880	*	*	880
07:00	*	702	695	*	*	698	*	*	698
08:00	*	456	427	*	*	442	*	*	442
09:00	*	374	376	*	*	375	*	*	375
10:00	*	239	246	*	*	242	*	*	242
11:00	*	120	138	*	*	129	*	*	129
Day Total	0	10739	10709	0	0	10727	0	0	10727
% Avg. WkDay	0.0%	100.1%	99.8%	0.0%	0.0%	100.0%	0.0%	0.0%	
% Avg. Week	0.0%	100.1%	99.8%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.	08:00	720	726			723			08:00
PM Peak Vol.	17:00	960	919			940			17:00
Grand Total	0	10739	10709	0	0	10727	0	0	10727
ADT					ADT 10,724				
					AADT 10,724				

Accurate Counts 978-664-2565

Page 1

Location : Massachusetts Avenue SB
Location : North of Lake Street
City/State: Arlington, MA
Counter : 11660

01300SB9A
Site Code: 0130009

Start Time	Tue 21-Oct-08		Wed 22-Oct-08		Thu 23-Oct-08		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	20	145	17	133	1	*	13	139
12:15	8	140	21	139	*	*	14	140
12:30	12	132	24	116	*	*	18	124
12:45	4	132	4	119	*	*	4	126
01:00	3	115	5	123	*	*	4	119
01:15	7	134	7	91	*	*	7	112
01:30	3	136	3	119	*	*	3	128
01:45	5	130	7	134	*	*	6	132
02:00	2	137	3	145	*	*	2	141
02:15	0	154	2	145	*	*	1	150
02:30	5	148	4	134	*	*	4	141
02:45	3	146	2	131	*	*	2	138
03:00	3	151	2	149	*	*	2	150
03:15	4	151	6	169	*	*	5	160
03:30	0	153	4	141	*	*	2	147
03:45	5	153	2	159	*	*	4	156
04:00	6	136	7	138	*	*	6	137
04:15	4	140	6	135	*	*	5	138
04:30	5	144	3	104	*	*	4	124
04:45	11	156	9	98	*	*	10	127
05:00	19	160	13	99	*	*	16	130
05:15	23	163	26	151	*	*	24	157
05:30	27	168	33	184	*	*	30	176
05:45	41	177	36	150	*	*	38	164
06:00	46	154	50	159	*	*	48	156
06:15	78	162	81	185	*	*	80	174
06:30	103	159	94	160	*	*	98	160
06:45	127	147	125	153	*	*	126	150
07:00	140	139	160	158	*	*	150	148
07:15	152	133	177	126	*	*	164	130
07:30	188	119	205	126	*	*	196	122
07:45	174	102	217	118	*	*	196	110
08:00	135	110	130	110	*	*	132	110
08:15	99	107	86	109	*	*	92	108
08:30	133	76	75	90	*	*	104	83
08:45	154	97	105	85	*	*	130	91
09:00	148	99	135	95	*	*	142	97
09:15	170	67	159	94	*	*	164	80
09:30	141	75	163	79	*	*	152	77
09:45	149	80	139	71	*	*	144	76
10:00	135	73	158	89	*	*	146	81
10:15	131	49	129	38	*	*	130	44
10:30	94	51	138	51	*	*	116	51
10:45	98	41	116	49	*	*	107	45
11:00	101	30	140	31	*	*	120	30
11:15	124	34	136	37	*	*	130	36
11:30	139	29	142	36	*	*	140	32
11:45	130	14	118	22	*	*	124	18
Total	3309	5648	3424	5477	1	0	3355	5565
Combined Total	8957		8901		1		8920	
Peak	07:00	05:00	07:00	05:30			07:00	05:30
Vol.	654	668	759	678			706	670
P.H.F.	0.870	0.944	0.874	0.916			0.901	0.952
ADT	ADT 8,929		AADT 8,929					

Accurate Counts 978-664-2565

Location : Massachusetts Avenue SB
 Location : North of Lake Street
 City/State: Arlington, MA
 Counter : 11660

01300SB9A
 Site Code: 0130009

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	*	44	66	*	*	55	*	*	55
01:00	*	18	22	*	*	20	*	*	20
02:00	*	10	11	*	*	10	*	*	10
03:00	*	12	14	*	*	13	*	*	13
04:00	*	26	25	*	*	26	*	*	26
05:00	*	110	108	*	*	109	*	*	109
06:00	*	354	350	*	*	352	*	*	352
07:00	*	654	759	*	*	706	*	*	706
08:00	*	521	396	*	*	458	*	*	458
09:00	*	608	596	*	*	602	*	*	602
10:00	*	458	541	*	*	500	*	*	500
11:00	*	494	536	*	*	515	*	*	515
12:00 PM	*	549	507	*	*	528	*	*	528
01:00	*	515	467	*	*	491	*	*	491
02:00	*	585	555	*	*	570	*	*	570
03:00	*	608	618	*	*	613	*	*	613
04:00	*	576	475	*	*	526	*	*	526
05:00	*	668	584	*	*	626	*	*	626
06:00	*	622	657	*	*	640	*	*	640
07:00	*	493	528	*	*	510	*	*	510
08:00	*	390	394	*	*	392	*	*	392
09:00	*	321	339	*	*	330	*	*	330
10:00	*	214	227	*	*	220	*	*	220
11:00	*	107	126	*	*	116	*	*	116
Day Total	0	8957	8901	0	0	8928	0	0	8928
% Avg. WkDay	0.0%	100.3%	99.7%	0.0%	0.0%	100.0%	0.0%	0.0%	
% Avg. Week AM Peak	0.0%	100.3%	99.7%	0.0%	0.0%	100.0%	0.0%	0.0%	
Vol.		654	759			706			706
PM Peak		17:00	18:00			18:00			18:00
Vol.		668	657			640			640
Grand Total	0	8957	8901	0	0	8928	0	0	8928

ADT ADT 8,929 AADT 8,929

Accurate Counts

978-664-2565

Page 1

Location : Massachusetts Avenue SB
 Location : North of Linwood Street
 City/State: Arlington, MA
 Counter : 16432

Site Code: 01300011
 0130SB11A

Start Time	Tue A.M.	21-Oct-08 P.M.	Wed A.M.	22-Oct-08 P.M.	Thu A.M.	23-Oct-08 P.M.	Daily Average	
							A.M.	P.M.
12:00	20	138	9	144	*	*	14	141
12:15	11	169	12	162	*	*	12	166
12:30	8	145	14	142	*	*	11	144
12:45	4	143	7	157	*	*	6	150
01:00	4	146	6	145	*	*	5	146
01:15	4	140	3	141	*	*	4	140
01:30	2	132	1	146	*	*	2	139
01:45	5	170	4	144	*	*	4	157
02:00	4	160	6	140	*	*	5	150
02:15	1	128	3	172	*	*	2	150
02:30	2	158	4	151	*	*	3	154
02:45	3	126	1	157	*	*	2	142
03:00	4	178	2	170	*	*	3	174
03:15	1	168	1	165	*	*	1	166
03:30	1	166	4	188	*	*	2	177
03:45	5	182	0	170	*	*	2	176
04:00	3	177	2	187	*	*	2	182
04:15	2	178	6	188	*	*	4	183
04:30	2	168	2	184	*	*	2	176
04:45	5	184	3	189	*	*	4	186
05:00	20	193	11	183	*	*	16	188
05:15	17	222	21	224	*	*	19	223
05:30	24	216	22	250	*	*	23	233
05:45	26	224	39	214	*	*	32	219
06:00	40	198	32	237	*	*	36	218
06:15	45	220	56	238	*	*	50	229
06:30	69	214	67	219	*	*	68	216
06:45	96	169	98	201	*	*	97	185
07:00	113	150	132	180	*	*	122	165
07:15	165	150	166	148	*	*	166	149
07:30	201	133	208	140	*	*	204	136
07:45	226	116	220	149	*	*	223	132
08:00	275	110	286	121	*	*	280	116
08:15	258	100	252	134	*	*	255	117
08:30	188	95	230	94	*	*	209	94
08:45	205	109	218	85	*	*	212	97
09:00	186	115	195	94	*	*	190	104
09:15	180	70	180	99	*	*	180	84
09:30	154	85	160	76	*	*	157	80
09:45	152	84	158	76	*	*	155	80
10:00	149	66	154	86	*	*	152	76
10:15	156	48	156	58	*	*	156	53
10:30	137	54	128	44	*	*	132	49
10:45	140	26	120	46	*	*	130	36
11:00	130	26	133	38	*	*	132	32
11:15	148	30	148	36	*	*	148	33
11:30	150	26	112	40	*	*	131	33
11:45	134	16	148	27	*	*	141	22
Total	3875	6421	3940	6779	0	0	3906	6598
Combined Total	10296		10719		0		10504	
Peak	07:30	05:15	07:45	05:30			07:45	05:30
Vol.	960	860	988	939			967	899
P.H.F.	0.873	0.960	0.864	0.939			0.863	0.965
ADT		ADT 10,508		AADT 10,508				

Accurate Counts 978-664-2565

Location : Massachusetts Avenue SB
 Location : North of Linwood Street
 City/State: Arlington, MA
 Counter : 16432

Site Code: 01300011
 0130SB11A

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	*	43	42	*	*	42	*	*	42
01:00	*	15	14	*	*	14	*	*	14
02:00	*	10	14	*	*	12	*	*	12
03:00	*	11	7	*	*	9	*	*	9
04:00	*	12	13	*	*	12	*	*	12
05:00	*	87	93	*	*	90	*	*	90
06:00	*	250	253	*	*	252	*	*	252
07:00	*	705	726	*	*	716	*	*	716
08:00	*	926	986	*	*	956	*	*	956
09:00	*	672	693	*	*	682	*	*	682
10:00	*	582	558	*	*	570	*	*	570
11:00	*	562	541	*	*	552	*	*	552
12:00 PM	*	595	605	*	*	600	*	*	600
01:00	*	588	576	*	*	582	*	*	582
02:00	*	572	620	*	*	596	*	*	596
03:00	*	694	693	*	*	694	*	*	694
04:00	*	707	748	*	*	728	*	*	728
05:00	*	855	871	*	*	863	*	*	863
06:00	*	801	895	*	*	848	*	*	848
07:00	*	549	617	*	*	583	*	*	583
08:00	*	414	434	*	*	424	*	*	424
09:00	*	354	345	*	*	350	*	*	350
10:00	*	194	234	*	*	214	*	*	214
11:00	*	98	141	*	*	120	*	*	120
Day Total	0	10296	10719	0	0	10509	0	0	10509
% Avg. WkDay	0.0%	98.0%	102.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
% Avg. Week	0.0%	98.0%	102.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.		08:00 926	08:00 986			08:00 956			08:00 956
PM Peak Vol.		17:00 855	18:00 895			17:00 863			17:00 863
Grand Total	0	10296	10719	0	0	10509	0	0	10509
ADT		ADT 10,508			AADT 10,508				

Accurate Counts 978-664-2565

Page 1

Location : Massachusetts Avenue NB
Location : North of Linwood Street
City/State: Arlington, MA
Counter : 10109

Site Code: 01300011
0130NB11A

Start Time	Tue A.M.	21-Oct-08 P.M.	Wed A.M.	22-Oct-08 P.M.	Thu A.M.	23-Oct-08 P.M.	Daily Average	
							A.M.	P.M.
12:00	22	132	19	154	*	*	20	143
12:15	12	128	16	110	*	*	14	119
12:30	9	150	16	146	*	*	12	148
12:45	9	162	7	88	*	*	8	125
01:00	8	114	8	0	*	*	8	57
01:15	6	143	10	0	*	*	8	72
01:30	4	142	3	0	*	*	4	71
01:45	8	176	6	0	*	*	7	88
02:00	1	144	4	0	*	*	2	72
02:15	9	150	6	0	*	*	8	75
02:30	3	150	4	0	*	*	4	75
02:45	2	160	3	0	*	*	2	80
03:00	3	156	4	143	*	*	4	150
03:15	2	176	6	162	*	*	4	169
03:30	7	183	2	177	*	*	4	180
03:45	2	199	1	172	*	*	2	186
04:00	2	174	1	209	*	*	2	192
04:15	2	198	1	160	*	*	2	179
04:30	6	191	11	184	*	*	8	188
04:45	5	181	2	205	*	*	4	193
05:00	4	206	6	186	*	*	5	196
05:15	8	214	10	214	*	*	9	214
05:30	22	205	19	190	*	*	20	198
05:45	18	214	21	201	*	*	20	208
06:00	15	208	24	212	*	*	20	210
06:15	32	186	23	186	*	*	28	186
06:30	46	192	41	204	*	*	44	198
06:45	50	165	58	176	*	*	54	170
07:00	89	172	94	167	*	*	92	170
07:15	94	186	104	180	*	*	99	183
07:30	156	135	154	136	*	*	155	136
07:45	173	110	164	132	*	*	168	121
08:00	146	110	163	124	*	*	154	117
08:15	187	108	183	113	*	*	185	110
08:30	184	96	187	86	*	*	186	91
08:45	182	88	202	98	*	*	192	93
09:00	142	105	164	86	*	*	153	96
09:15	146	76	129	98	*	*	138	87
09:30	127	62	120	77	*	*	124	70
09:45	136	77	134	78	*	*	135	78
10:00	134	68	124	64	*	*	129	66
10:15	120	69	112	62	*	*	116	66
10:30	141	44	102	60	*	*	122	52
10:45	124	30	135	39	*	*	130	34
11:00	138	31	117	30	*	*	128	30
11:15	129	22	127	28	*	*	128	25
11:30	160	29	160	36	*	*	160	32
11:45	137	18	118	29	*	*	128	24
Total	3162	6435	3125	5202	0	0	3149	5823
Combined Total	9597		8327		0		8972	
Peak	08:00	05:15	08:15	05:15			08:00	05:15
Vol.	699	841	736	817			717	830
P.H.F.	0.934	0.982	0.911	0.954			0.934	0.970
ADT		ADT 8,962	AADT 8,962					

Accurate Counts 978-664-2565

Location : Massachusetts Avenue NB
Location : North of Linwood Street
City/State: Arlington, MA
Counter : 10109

Site Code: 01300011
0130NB11A

Start Time	Mon 20-Oct-08	Tue 21-Oct-08	Wed 22-Oct-08	Thu 23-Oct-08	Fri 24-Oct-08	Average Day	Sat 25-Oct-08	Sun 26-Oct-08	Week Average
12:00 AM	*	52	58	*	*	55	*	*	55
01:00	*	26	27	*	*	26	*	*	26
02:00	*	15	17	*	*	16	*	*	16
03:00	*	14	13	*	*	14	*	*	14
04:00	*	15	15	*	*	15	*	*	15
05:00	*	52	56	*	*	54	*	*	54
06:00	*	143	146	*	*	144	*	*	144
07:00	*	512	516	*	*	514	*	*	514
08:00	*	699	735	*	*	717	*	*	717
09:00	*	551	547	*	*	549	*	*	549
10:00	*	519	473	*	*	496	*	*	496
11:00	*	564	522	*	*	543	*	*	543
12:00 PM	*	572	498	*	*	535	*	*	535
01:00	*	575	0	*	*	288	*	*	288
02:00	*	604	0	*	*	302	*	*	302
03:00	*	714	654	*	*	684	*	*	684
04:00	*	744	758	*	*	751	*	*	751
05:00	*	839	791	*	*	815	*	*	815
06:00	*	751	778	*	*	764	*	*	764
07:00	*	603	615	*	*	609	*	*	609
08:00	*	402	421	*	*	412	*	*	412
09:00	*	320	339	*	*	330	*	*	330
10:00	*	211	225	*	*	218	*	*	218
11:00	*	100	123	*	*	112	*	*	112
Day Total	0	9597	8327	0	0	8963	0	0	8963
% Avg. WkDay	0.0%	107.1%	92.9%	0.0%	0.0%				
% Avg. Week	0.0%	107.1%	92.9%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.		08:00	08:00			08:00			08:00
		699	735			717			717
PM Peak Vol.		17:00	17:00			17:00			17:00
		839	791			815			815
Grand Total	0	9597	8327	0	0	8963	0	0	8963
ADT			ADT 8,962		AADT 8,962				

Accurate Counts 978-664-2565

Page 1

Location : Massachusetts Avenue NB
Location : South of Foster Street
City/State: Arlington, MA
Counter : 15169

Site Code: 01300001
013000V8A

Start Time	21-Oct-08 Tue	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	148			18	175				
12:15		11	148			12	214				
12:30		8	149			9	182				
12:45		7	138	42	583	4	175	43	746	85	1329
01:00		9	126			4	159				
01:15		6	140			4	162				
01:30		4	156			2	166				
01:45		6	162	25	584	7	178	17	665	42	1249
02:00		4	150			2	184				
02:15		9	151			1	148				
02:30		0	164			2	176				
02:45		4	159	17	624	3	180	8	688	25	1312
03:00		4	174			3	224				
03:15		2	167			2	200				
03:30		3	194			0	221				
03:45		3	188	12	723	4	235	9	880	21	1603
04:00		2	202			3	236				
04:15		2	190			2	218				
04:30		8	178			3	236				
04:45		2	182	14	752	5	233	13	923	27	1675
05:00		8	192			19	210				
05:15		13	218			16	278				
05:30		22	230			26	267				
05:45		7	210	50	850	26	294	87	1049	137	1899
06:00		21	206			38	273				
06:15		32	192			50	260				
06:30		54	172			78	238				
06:45		59	178	166	748	102	183	268	954	434	1702
07:00		82	166			146	196				
07:15		117	188			219	192				
07:30		184	120			229	161				
07:45		164	107	547	581	258	128	852	677	1399	1258
08:00		166	108			314	141				
08:15		204	112			298	123				
08:30		199	89			248	95				
08:45		168	82	737	391	260	124	1120	483	1857	874
09:00		156	100			228	118				
09:15		127	78			214	78				
09:30		138	66			184	81				
09:45		134	66	555	310	176	83	802	360	1357	670
10:00		116	70			193	82				
10:15		130	62			170	52				
10:30		120	46			150	56				
10:45		141	25	507	203	170	34	683	224	1190	427
11:00		128	32			162	26				
11:15		132	26			173	30				
11:30		167	20			166	26				
11:45		108	21	535	99	148	12	649	94	1184	193
Total		3207	6448			4551	7743			7758	14191
Percent		33.2%	66.8%			37.0%	63.0%			35.3%	64.7%

Accurate Counts

978-664-2565

Page 2

Location : Massachusetts Avenue NB
 Location : South of Foster Street
 City/State: Arlington, MA
 Counter : 15169

Site Code: 01300001
 013000V8A

Start Time	22-Oct-08 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	152			11	186				
12:15		18	138			12	173				
12:30		12	162			15	202				
12:45		9	150	55	602	6	192	44	753	99	1355
01:00		6	147			6	174				
01:15		8	160			3	146				
01:30		6	140			1	175				
01:45		4	138	24	585	5	148	15	643	39	1228
02:00		4	140			5	181				
02:15		5	163			2	190				
02:30		3	147			4	178				
02:45		3	140	15	590	1	212	12	761	27	1351
03:00		3	180			1	201				
03:15		3	174			3	232				
03:30		1	194			2	204				
03:45		1	186	8	734	1	227	7	864	15	1598
04:00		2	180			2	216				
04:15		4	178			5	209				
04:30		8	196			2	230				
04:45		2	198	16	752	5	229	14	884	30	1636
05:00		10	190			11	210				
05:15		6	206			26	264				
05:30		23	199			26	276				
05:45		18	204	57	799	32	260	95	1010	152	1809
06:00		21	196			36	280				
06:15		28	197			58	287				
06:30		52	176			78	258				
06:45		58	183	159	752	102	224	274	1049	433	1801
07:00		92	174			146	200				
07:15		117	158			232	170				
07:30		157	138			232	180				
07:45		189	138	555	608	297	136	907	686	1462	1294
08:00		212	122			316	128				
08:15		198	106			294	112				
08:30		195	82			267	96				
08:45		203	79	808	389	286	98	1163	434	1971	823
09:00		152	82			216	108				
09:15		136	86			214	109				
09:30		129	74			166	82				
09:45		121	72	538	314	172	72	768	371	1306	685
10:00		126	62			188	90				
10:15		124	62			147	46				
10:30		118	49			167	42				
10:45		122	33	490	206	152	45	654	223	1144	429
11:00		124	27			174	31				
11:15		137	29			166	32				
11:30		145	33			153	31				
11:45		126	21	532	110	150	19	643	113	1175	223
Total		3257	6441			4596	7791			7853	14232
Percent		33.6%	66.4%			37.1%	62.9%			35.6%	64.4%
Grand Total		6464	12889			9147	15534			15611	28423
Percent		33.4%	66.6%			37.1%	62.9%			35.5%	64.5%

ADT

ADT 22,017

AADT 22,017

Accurate Counts 978-664-2565

Location : Massachusetts Avenue NB
Location : South of Foster Street
City/State: Arlington, MA
Counter : 15169

Site Code: 01300001
013000V8A

Start Time	20-Oct-08		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	42	43	55	44	*	*	*	*	*	*	*	*	48	44
01:00	*	*	25	17	24	15	*	*	*	*	*	*	*	*	24	16
02:00	*	*	17	8	15	12	*	*	*	*	*	*	*	*	16	10
03:00	*	*	12	9	8	7	*	*	*	*	*	*	*	*	10	8
04:00	*	*	14	13	16	14	*	*	*	*	*	*	*	*	15	14
05:00	*	*	50	87	57	95	*	*	*	*	*	*	*	*	54	91
06:00	*	*	166	268	159	274	*	*	*	*	*	*	*	*	162	271
07:00	*	*	547	852	555	907	*	*	*	*	*	*	*	*	551	880
08:00	*	*	737	1120	808	1163	*	*	*	*	*	*	*	*	772	1142
09:00	*	*	555	802	538	768	*	*	*	*	*	*	*	*	546	785
10:00	*	*	507	683	490	654	*	*	*	*	*	*	*	*	498	668
11:00	*	*	535	649	532	643	*	*	*	*	*	*	*	*	534	646
12:00 PM	*	*	583	746	602	753	*	*	*	*	*	*	*	*	592	750
01:00	*	*	584	665	585	643	*	*	*	*	*	*	*	*	584	654
02:00	*	*	624	688	590	761	*	*	*	*	*	*	*	*	607	724
03:00	*	*	723	880	734	864	*	*	*	*	*	*	*	*	728	872
04:00	*	*	752	923	752	884	*	*	*	*	*	*	*	*	752	904
05:00	*	*	850	1049	799	1010	*	*	*	*	*	*	*	*	824	1030
06:00	*	*	748	954	752	1049	*	*	*	*	*	*	*	*	750	1002
07:00	*	*	581	677	608	686	*	*	*	*	*	*	*	*	594	682
08:00	*	*	391	483	389	434	*	*	*	*	*	*	*	*	390	458
09:00	*	*	310	360	314	371	*	*	*	*	*	*	*	*	312	366
10:00	*	*	203	224	206	223	*	*	*	*	*	*	*	*	204	224
11:00	*	*	99	94	110	113	*	*	*	*	*	*	*	*	104	104
Lane	0	0	9655	12294	9698	12387	0	0	0	0	0	0	0	0	9671	12345
Day	0	0	21949	22085	22085	22016	0	0	0	0	0	0	0	0	22016	22016
AM Peak			08:00	08:00	08:00	08:00									08:00	08:00
Vol.			737	1120	808	1163									772	1142
PM Peak			17:00	17:00	17:00	18:00									17:00	17:00
Vol.			850	1049	799	1049									824	1030

TRAFFIC COUNTS

May 2009

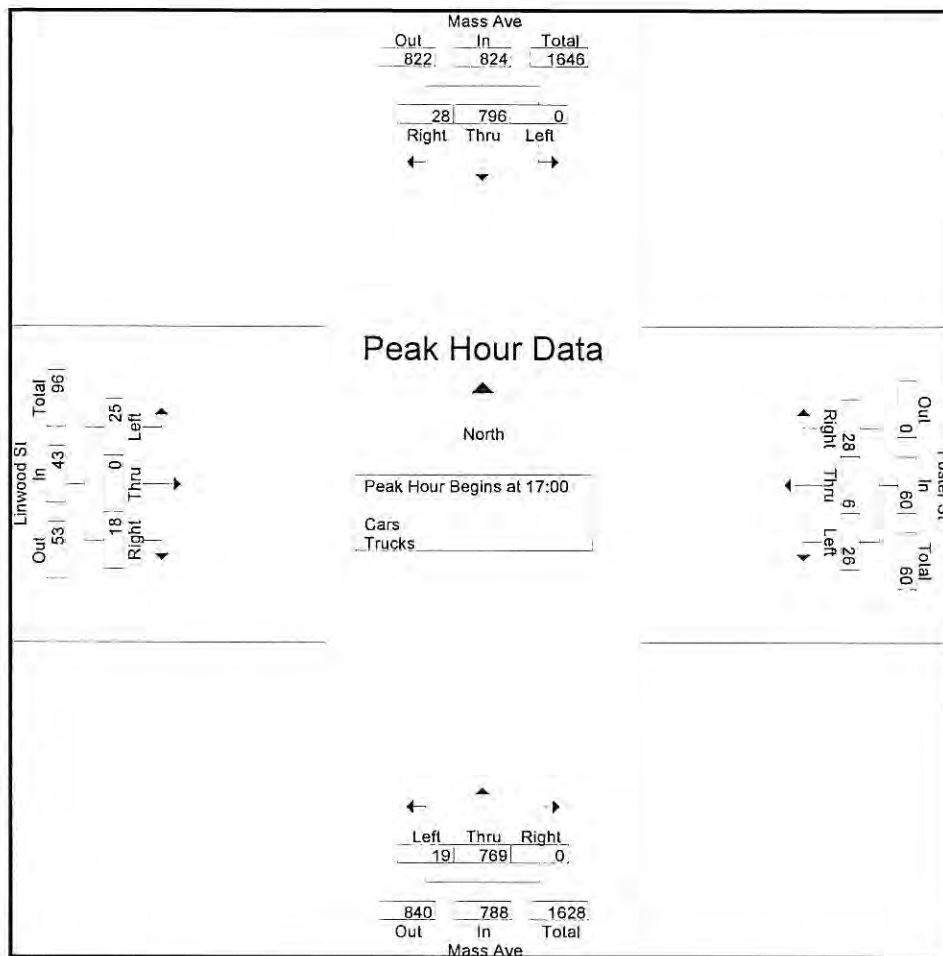
N/S Street : Massachusetts Avenue
E/W Street: Foster St / Linwood St
City/State : Arlington, MA
Weather : Clear

File Name : 013000a1
Site Code : 01300001
Start Date : 5/13/2009
Page No : 1

Groups Printed- Cars - Trucks

Start Time	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds			
16:00	6	168	0	6	7	2	7	6	0	172	1	5	3	0	4	8	25	370	395
16:15	8	151	0	8	1	6	6	5	0	155	6	13	3	0	4	16	42	340	382
16:30	9	191	0	4	1	1	4	3	0	196	4	3	6	0	13	15	25	425	450
16:45	14	191	0	0	7	2	2	1	0	146	8	3	5	0	5	8	12	380	392
Total	37	701	0	18	16	11	19	15	0	669	19	24	17	0	26	47	104	1515	1619
17:00	6	200	0	7	5	0	5	9	0	189	4	3	9	0	5	10	29	423	452
17:15	12	196	0	6	11	1	2	2	0	179	6	2	4	0	5	7	17	416	433
17:30	8	192	0	11	10	3	11	2	0	186	6	1	1	0	4	3	17	421	438
17:45	2	208	0	14	2	2	8	5	0	215	3	3	4	0	11	5	27	455	482
Total	28	796	0	38	28	6	26	18	0	769	19	9	18	0	25	25	90	1715	1805
Grand Total	65	1497	0	56	44	17	45	33	0	1438	38	33	35	0	51	72	194	3230	3424
Apprch %	4.2	95.8	0		41.5	16	42.5		0	97.4	2.6		40.7	0	59.3				
Total %	2	46.3	0		1.4	0.5	1.4		0	44.5	1.2		1.1	0	1.6		5.7	94.3	
Cars	64	1446	0		43	17	45		0	1393	37		34	0	48		0	0	3321
% Cars	98.5	96.6	0	100	97.7	100	100	100	0	96.9	97.4	100	97.1	0	94.1	100	0	0	97
Trucks	1	51	0		1	0	0		0	45	1		1	0	3		0	0	103
% Trucks	1.5	3.4	0	0	2.3	0	0	0	0	3.1	2.6	0	2.9	0	5.9	0	0	0	3

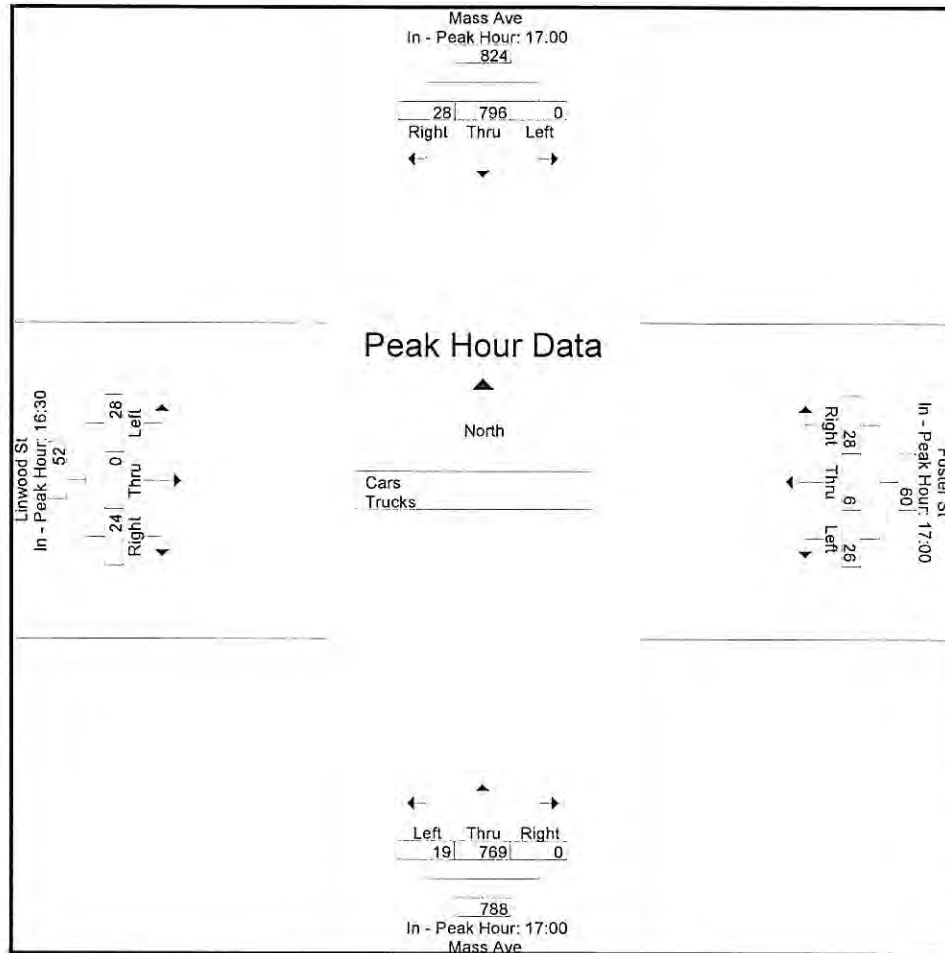
Mass Ave From North					Foster St From East					Mass Ave From South					Linwood St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total		
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 17:00																			
17:00	6	200	0	206	5	0	5	10	0	189	4	193	9	0	5	14	423		
17:15	12	196	0	208	11	1	2	14	0	179	6	185	4	0	5	9	416		
17:30	8	192	0	200	10	3	11	24	0	186	6	192	1	0	4	5	421		
17:45	2	208	0	210	2	2	8	12	0	215	3	218	4	0	11	15	455		
Total Volume	28	796	0	824	28	6	26	60	0	769	19	788	18	0	25	43	1715		
% App. Total	3.4	96.6	0		46.7	10	43.3		0	97.6	2.4		41.9	0	58.1				
PHF	.583	.957	.000	.981	.636	.500	.591	.625	.000	.894	.792	.904	.500	.000	.568	.717	.942		



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

Peak Period: For Each Approach Begins At:																
	17:00				17:00				17:00				16:30			
+0 mins.	6	200	0	206	5	0	5	10	0	189	4	193	6	0	13	19
+15 mins.	12	196	0	208	11	1	2	14	0	179	6	185	5	0	5	10
+30 mins.	8	192	0	200	10	3	11	24	0	186	6	192	9	0	5	14
+45 mins.	2	208	0	210	2	2	8	12	0	215	3	218	4	0	5	9
Total Volume	28	796	0	824	28	6	26	60	0	769	19	788	24	0	28	52
% App. Total	3.4	96.6	0		46.7	10	43.3		0	97.6	2.4		46.2	0	53.8	
PHF	.583	.957	.000	.981	.636	.500	.591	.625	.000	.894	.792	.904	.667	.000	.538	.684



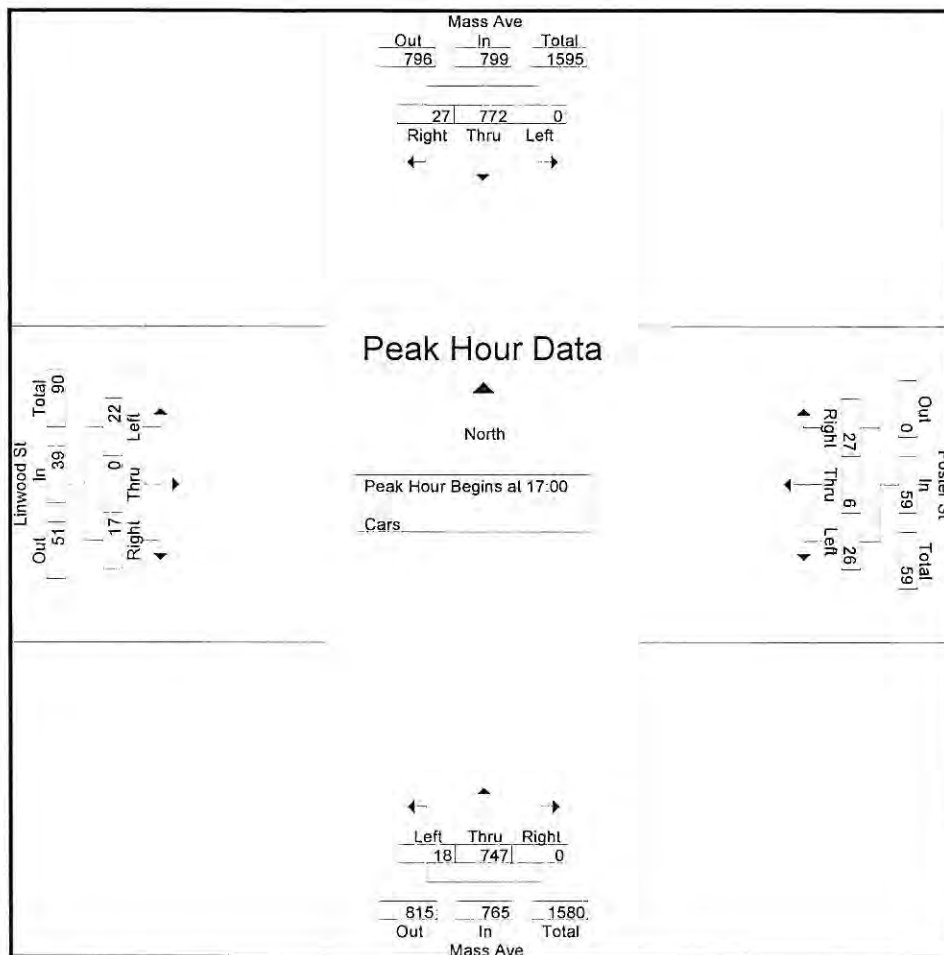
N/S Street : Massachusetts Avenue
E/W Street: Foster St / Linwood St
City/State : Arlington, MA
Weather : Clear

File Name : 013000a1
Site Code : 01300001
Start Date : 5/13/2009
Page No : 1

Groups Printed- Cars

Start Time	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds			
16:00	6	164	0	6	7	2	7	6	0	167	1	5	3	0	4	8	25	361	386
16:15	8	141	0	8	1	6	6	5	0	149	6	13	3	0	4	16	42	324	366
16:30	9	185	0	4	1	1	4	3	0	190	4	3	6	0	13	15	25	413	438
16:45	14	184	0	0	7	2	2	1	0	140	8	3	5	0	5	8	12	367	379
Total	37	674	0	18	16	11	19	15	0	646	19	24	17	0	26	47	104	1465	1569
17:00	6	192	0	7	4	0	5	9	0	181	4	3	9	0	4	10	29	405	434
17:15	12	191	0	6	11	1	2	2	0	175	5	2	4	0	3	7	17	404	421
17:30	8	184	0	11	10	3	11	2	0	181	6	1	1	0	4	3	17	408	425
17:45	1	205	0	14	2	2	8	5	0	210	3	3	3	0	11	5	27	445	472
Total	27	772	0	38	27	6	26	18	0	747	18	9	17	0	22	25	90	1662	1752
Grand Total	64	1446	0	56	43	17	45	33	0	1393	37	33	34	0	48	72	194	3127	3321
Apprch %	4.2	95.8	0		41	16.2	42.9		0	97.4	2.6		41.5	0	58.5				
Total %	2	46.2	0		1.4	0.5	1.4		0	44.5	1.2		1.1	0	1.5		5.8	94.2	

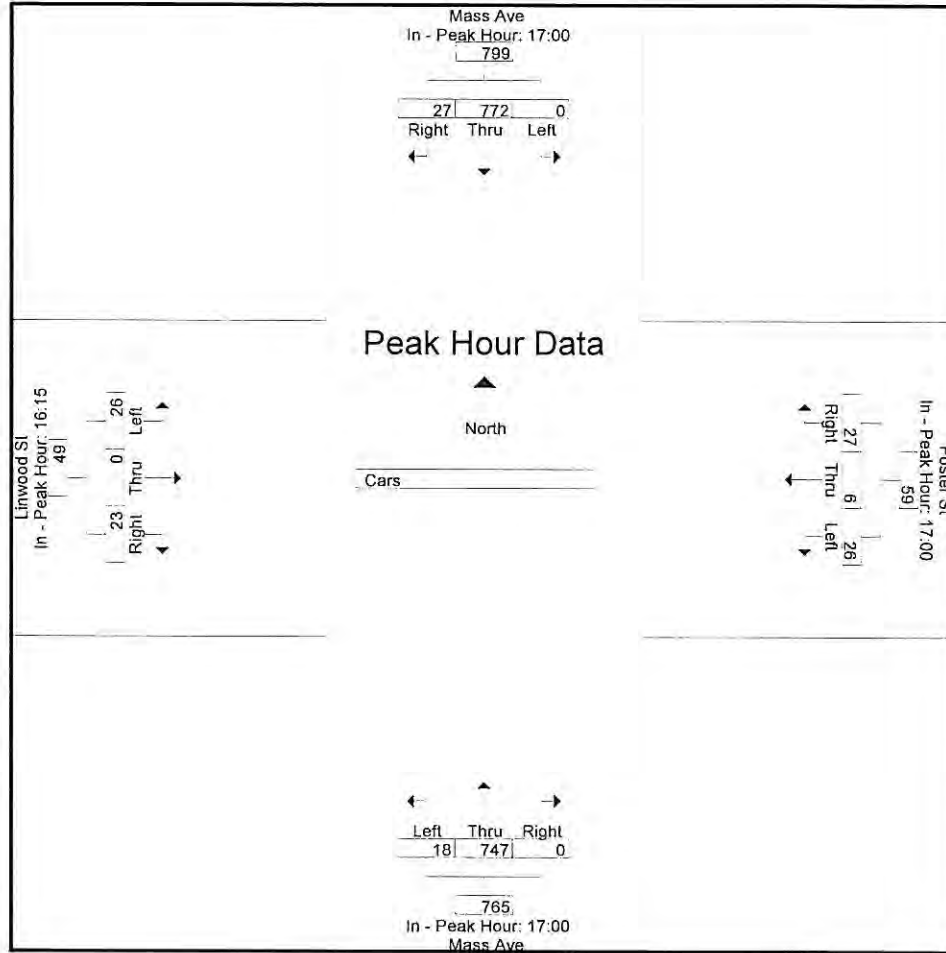
Start Time	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				Int. Total	
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total		
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 17:00																		
17:00	6	192	0	198	4	0	5	9	0	181	4	185	9	0	4	13	405	
17:15	12	191	0	203	11	1	2	14	0	175	5	180	4	0	3	7	404	
17:30	8	184	0	192	10	3	11	24	0	181	6	187	1	0	4	5	408	
17:45	1	205	0	206	2	2	8	12	0	210	3	213	3	0	11	14	445	
Total Volume	27	772	0	799	27	6	26	59	0	747	18	765	17	0	22	39	1662	
% App. Total	3.4	96.6	0		45.8	10.2	44.1		0	97.6	2.4		43.6	0	56.4			
PHF	.563	.941	.000	.970	.614	.500	.591	.615	.000	.889	.750	.898	.472	.000	.500	.696	.934	



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at

	17:00			17:00			17:00			16:15						
+0 mins.	6	192	0	198	4	0	5	9	0	181	4	185	3	0	4	7
+15 mins.	12	191	0	203	11	1	2	14	0	175	5	180	6	0	13	19
+30 mins.	8	184	0	192	10	3	11	24	0	181	6	187	5	0	5	10
+45 mins.	1	205	0	206	2	2	8	12	0	210	3	213	9	0	4	13
Total Volume	27	772	0	799	27	6	26	59	0	747	18	765	23	0	26	49
% App. Total	3.4	96.6	0		45.8	10.2	44.1		0	97.6	2.4		46.9	0	53.1	
PHF	.563	.941	.000	.970	.614	.500	.591	.615	.000	.889	.750	.898	.639	.000	.500	.645



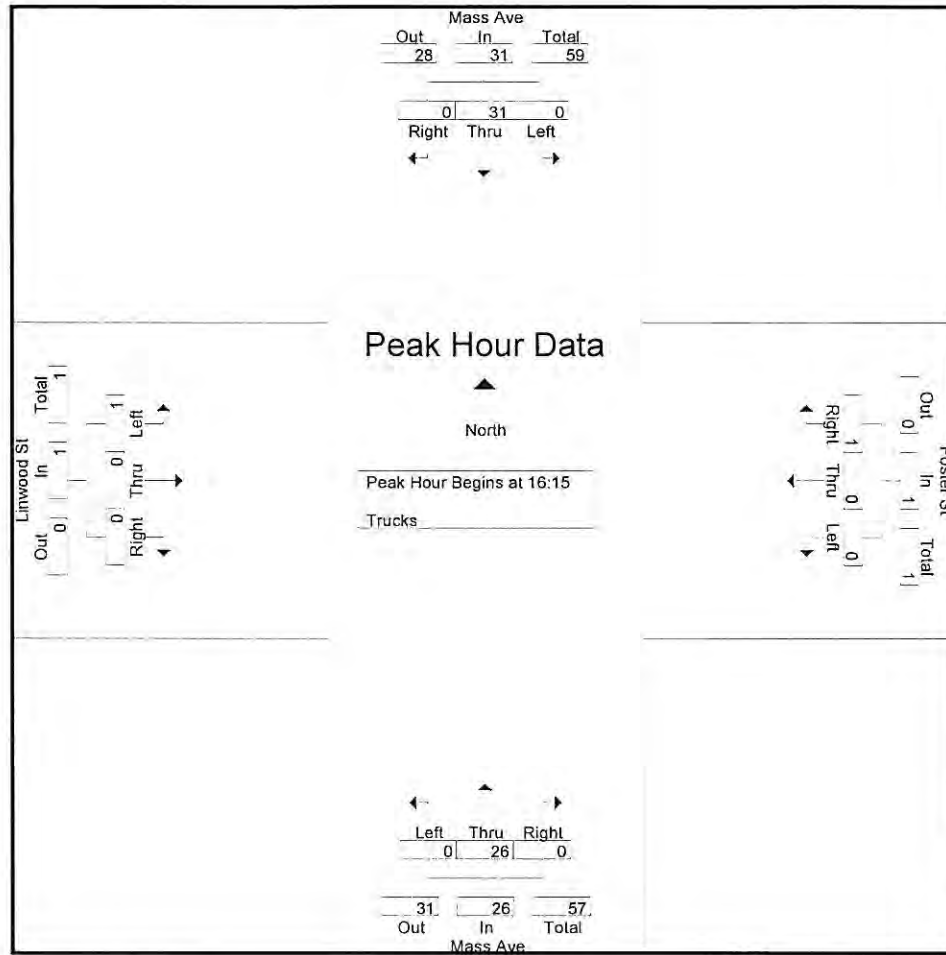
N/S Street : Massachusetts Avenue
E/W Street: Foster St / Linwood St
City/State : Arlington, MA
Weather : Clear

File Name : 013000a1
Site Code : 01300001
Start Date : 5/13/2009
Page No : 1

Groups Printed- Trucks

Start Time	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds			
16:00	0	4	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	9	9
16:15	0	10	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	16	16
16:30	0	6	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	12	12
16:45	0	7	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	13	13
Total	0	27	0	0	0	0	0	0	0	23	0	0	0	0	0	0	0	50	50
17:00	0	8	0	0	1	0	0	0	0	8	0	0	0	0	1	0	0	18	18
17:15	0	5	0	0	0	0	0	0	0	4	1	0	0	0	2	0	0	12	12
17:30	0	8	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	13	13
17:45	1	3	0	0	0	0	0	0	0	5	0	0	1	0	0	0	0	10	10
Total	1	24	0	0	1	0	0	0	0	22	1	0	1	0	3	0	0	53	53
Grand Total	1	51	0	0	1	0	0	0	0	45	1	0	1	0	3	0	0	103	103
Apprch %	1.9	98.1	0		100	0	0		0	97.8	2.2		25	0	75				
Total %	1	49.5	0		1	0	0		0	43.7	1		1	0	2.9		0	100	

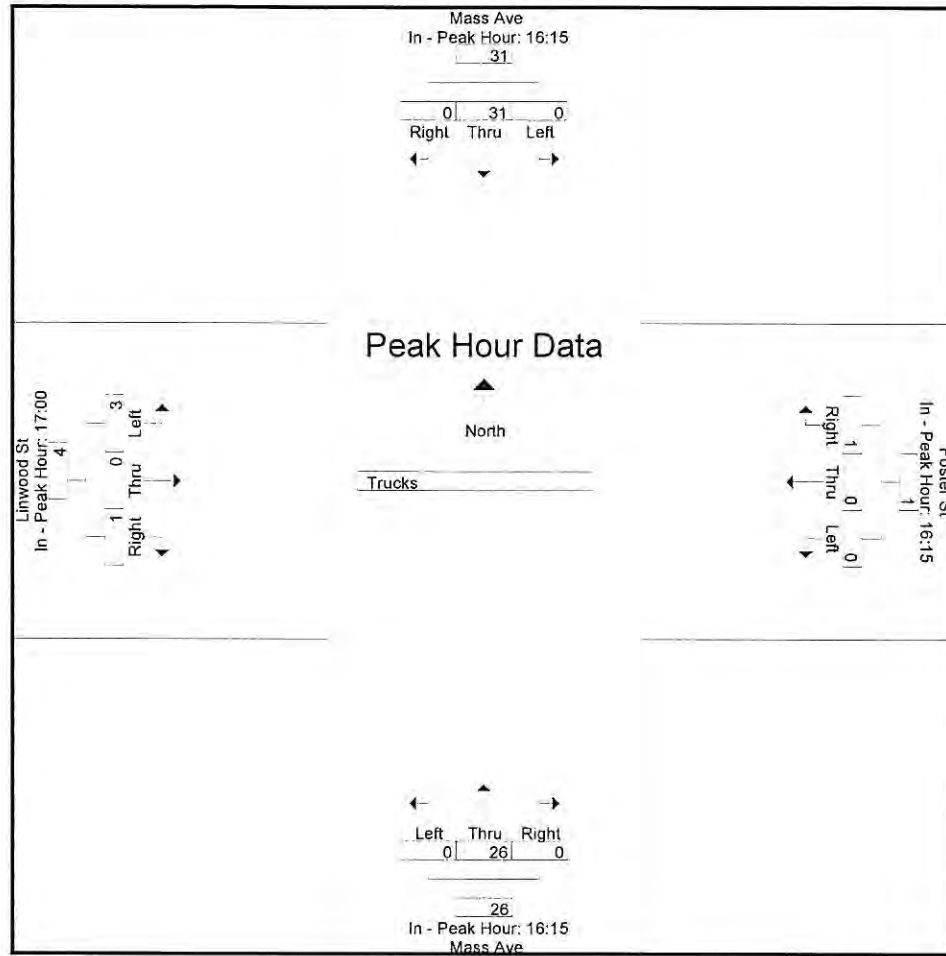
Mass Ave From North					Foster St From East					Mass Ave From South					Linwood St From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total		
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 16:15																			
16:15	0	10	0	10	0	0	0	0	0	6	0	6	0	0	0	0	16		
16:30	0	6	0	6	0	0	0	0	0	6	0	6	0	0	0	0	12		
16:45	0	7	0	7	0	0	0	0	0	6	0	6	0	0	0	0	13		
17:00	0	8	0	8	1	0	0	1	0	8	0	8	0	0	1	1	18		
Total Volume	0	31	0	31	1	0	0	1	0	26	0	26	0	0	1	1	59		
% App. Total	0	100	0		100	0	0		0	100	0		0	0	100				
PHF	.000	.775	.000	.775	.250	.000	.000	.250	.000	.813	.000	.813	.000	.000	.250	.250	.819		



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:15			16:15			16:15			17:00					
+0 mins.	0	10	0	10	0	0	0	0	6	0	6	0	1	1	
+15 mins.	0	6	0	6	0	0	0	0	6	0	6	0	2	2	
+30 mins.	0	7	0	7	0	0	0	0	6	0	6	0	0	0	
+45 mins.	0	8	0	8	1	0	0	1	8	0	8	1	0	0	1
Total Volume	0	31	0	31	1	0	0	1	26	0	26	1	0	3	4
% App. Total	0	100	0	100	0	0	0	0	100	0	25	0	75		
PHF	.000	.775	.000	.775	.250	.000	.000	.250	.813	.000	.813	.250	.000	.375	.500



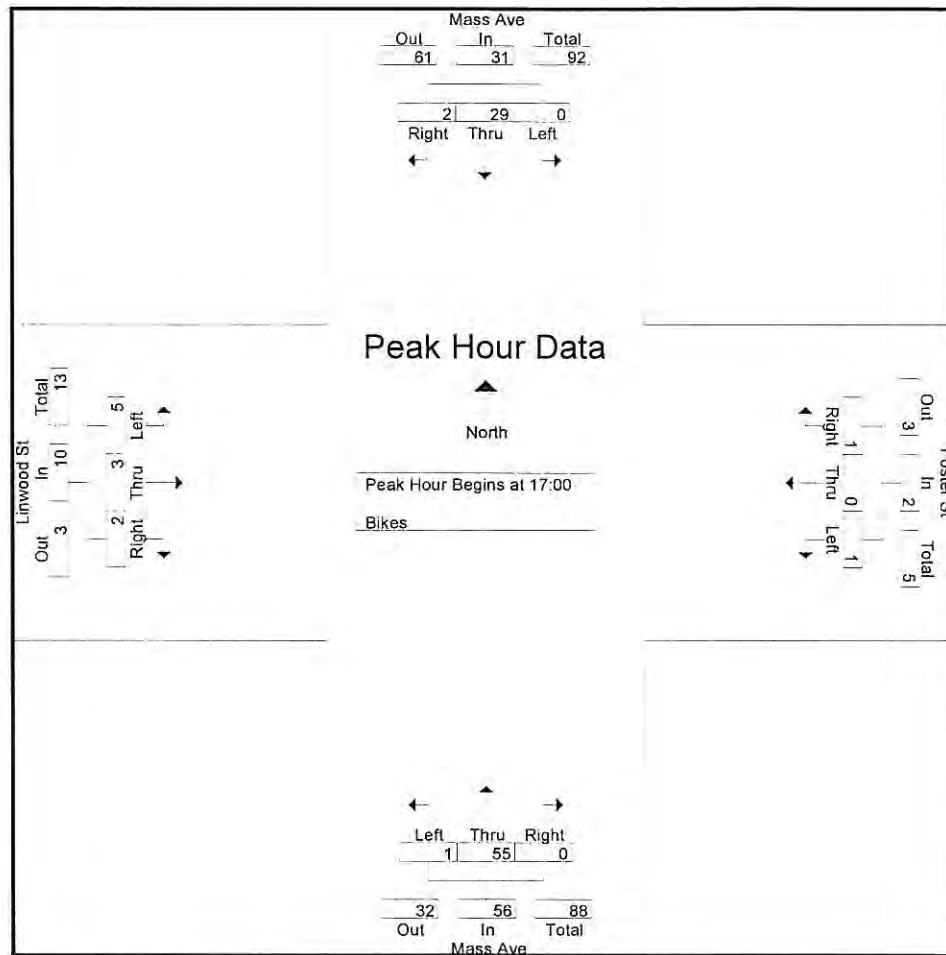
N/S Street : Massachusetts Avenue
E/W Street: Foster St / Linwood St
City/State : Arlington, MA
Weather : Clear

File Name : 013000a1
Site Code : 01300001
Start Date : 5/13/2009
Page No : 1

Groups Printed- Bikes

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
16:00	0	3	0	0	0	0	1	7	0	2	0	1	14
16:15	0	3	0	0	0	0	0	5	0	0	0	1	9
16:30	0	4	0	0	0	0	0	8	0	1	0	0	13
16:45	0	2	0	0	0	0	0	8	1	0	0	2	13
Total	0	12	0	0	0	0	1	28	1	3	0	4	49
17:00	0	4	0	0	0	0	0	5	0	1	0	2	12
17:15	1	3	0	0	0	1	0	18	1	0	0	3	27
17:30	0	11	0	0	0	0	0	15	0	1	2	0	29
17:45	1	11	0	1	0	0	0	17	0	0	1	0	31
Total	2	29	0	1	0	1	0	55	1	2	3	5	99
Grand Total	2	41	0	1	0	1	1	83	2	5	3	9	148
Apprch %	4.7	95.3	0	50	0	50	1.2	96.5	2.3	29.4	17.6	52.9	
Total %	1.4	27.7	0	0.7	0	0.7	0.7	56.1	1.4	3.4	2	6.1	

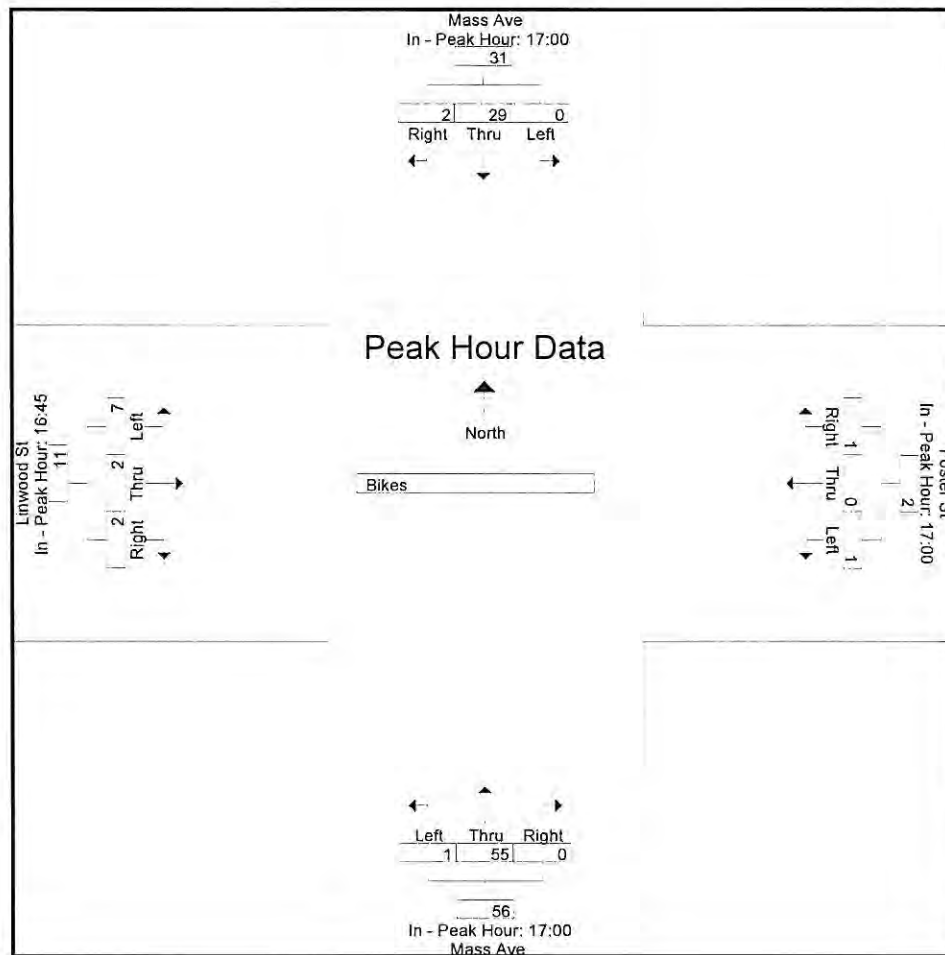
Mass Ave From North					Foster St From East					Mass Ave From South					Linwood St From West				
Start Time	Right	Thru	Left	App Total	Right	Thru	Left	App Total	Right	Thru	Left	App Total	Right	Thru	Left	App Total	Int. Total		
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 17:00																			
17:00	0	4	0	4	0	0	0	0	0	5	0	5	1	0	2	3	12		
17:15	1	3	0	4	0	0	1	1	0	18	1	19	0	0	3	3	27		
17:30	0	11	0	11	0	0	0	0	0	15	0	15	1	2	0	3	29		
17:45	1	11	0	12	1	0	0	1	0	17	0	17	0	1	0	1	31		
Total Volume	2	29	0	31	1	0	1	2	0	55	1	56	2	3	5	10	99		
% App. Total	6.5	93.5	0		50	0	50		0	98.2	1.8		20	30	50				
PHF	.500	.659	.000	.646	.250	.000	.250	.500	.000	.764	.250	.737	.500	.375	.417	.833	.798		



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	17:00			17:00			17:00			16:45			16:45		
+0 mins	0	4	0	4	0	0	0	0	5	0	5	0	0	2	2
+15 mins	1	3	0	4	0	0	1	1	18	1	19	1	0	2	3
+30 mins	0	11	0	11	0	0	0	0	15	0	15	0	0	3	3
+45 mins	1	11	0	12	1	0	0	1	17	0	17	1	2	0	3
Total Volume	2	29	0	31	1	0	1	2	55	1	56	2	2	7	11
% App. Total	6.5	93.5	0	50	50	0	50	0	98.2	1.8	18.2	18.2	63.6		
PHF	.500	.659	.000	.646	.250	.000	.250	.500	.764	.250	.737	.500	.250	.583	.917



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Cloudy

Accurate Counts
 978-664-2565

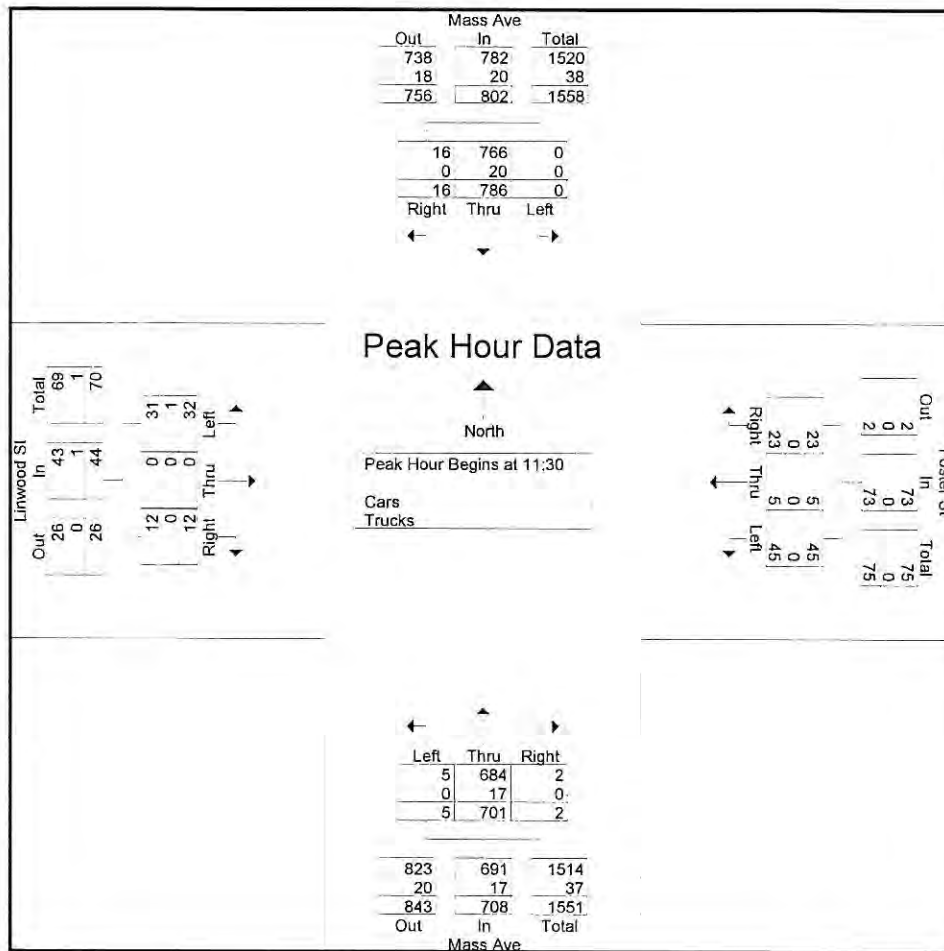
File Name : 01300001
 Site Code : 01300001
 Start Date : 5/9/2008
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				Exclu Total	Inclu Total	Int Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
11:00	0	171	3	3	7	0	2	13	1	171	1	1	6	0	1	5	22	363	385
11:15	0	178	2	2	10	0	1	10	1	179	1	6	7	0	6	9	27	385	412
11:30	0	170	1	12	14	3	6	15	0	178	2	7	11	0	9	15	49	394	443
11:45	0	195	3	1	8	0	9	12	1	195	0	2	9	0	1	10	25	421	446
Total	0	714	9	18	39	3	18	50	3	723	4	16	33	0	17	39	123	1563	1686
12:00	0	213	6	3	13	1	2	7	2	166	0	0	6	0	2	6	16	411	427
12:15	0	208	6	2	10	1	6	7	2	162	0	3	6	0	0	8	20	401	421
12:30	0	170	14	0	6	0	4	6	3	155	0	0	2	0	1	13	19	355	374
12:45	0	177	4	9	12	0	9	6	0	184	0	2	3	0	1	3	20	390	410
Total	0	768	30	14	41	2	21	26	7	667	0	5	17	0	4	30	75	1557	1632
Grand Total	0	1482	39	32	80	5	39	76	10	1390	4	21	50	0	21	69	198	3120	3318
Apprch %	0	97.4	2.6		64.5	4	31.5		0.7	99	0.3		70.4	0	29.6				
Total %	0	47.5	1.2		2.6	0.2	1.2		0.3	44.6	0.1		1.6	0	0.7		6	94	
Cars	0	1450	39		80	5	39		10	1361	4		48	0	21		0	0	3255
% Cars	0	97.8	100	100	100	100	100	100	100	97.9	100	100	96	0	100	100	0	0	98.1
Trucks	0	32	0		0	0	0		0	29	0		2	0	0		0	0	63
% Trucks	0	2.2	0	0	0	0	0	0	0	2.1	0	0	4	0	0	0	0	0	1.9

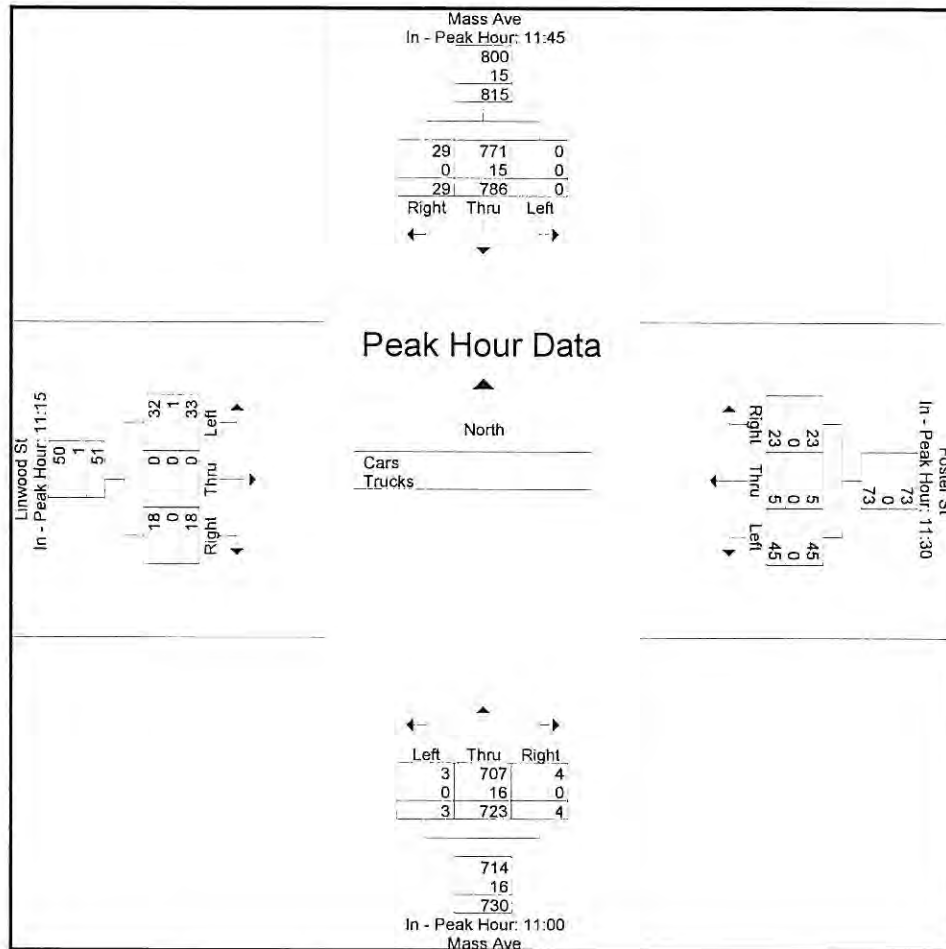
Mass Ave From North					Foster St From East				Mass Ave From South				Linwood St From West				
Start Time	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Int. Total
Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30																	
11:30	0	170	1	171	14	3	6	23	0	178	2	180	11	0	9	20	394
11:45	0	195	3	198	8	0	9	17	1	195	0	196	9	0	1	10	421
12:00	0	213	6	219	13	1	2	16	2	166	0	168	6	0	2	8	411
12:15	0	208	6	214	10	1	6	17	2	162	0	164	6	0	0	6	401
Total Volume	0	786	16	802	45	5	23	73	5	701	2	708	32	0	12	44	1627
% App. Total	0	98	2		61.6	6.8	31.5		0.7	99	0.3		72.7	0	27.3		
PHF	000	923	.667	916	.804	.417	.639	.793	.625	.899	.250	.903	.727	000	.333	.550	.966
Cars	0	766	16	782	45	5	23	73	5	684	2	691	31	0	12	43	1589
% Cars	0	97.5	100	97.5	100	100	100	100	100	97.6	100	97.6	96.9	0	100	97.7	97.7
Trucks	0	20	0	20	0	0	0	0	0	17	0	17	1	0	0	1	38
% Trucks	0	2.5	0	2.5	0	0	0	0	0	2.4	0	2.4	3.1	0	0	2.3	2.3

File Name 01300001
Site Code 01300001
Start Date 5/9/2008
Page No 2



Peak Hour for Each Approach Begins at:

	11:45			11:30			11:00			11:15						
+0 mins.	0	195	3	198	14	3	6	23	1	171	1	173	7	0	6	13
+15 mins.	0	213	6	219	8	0	9	17	1	179	1	181	11	0	9	20
+30 mins.	0	208	6	214	13	1	2	16	0	178	2	180	9	0	1	10
+45 mins.	0	170	14	184	10	1	6	17	1	195	0	196	6	0	2	8
Total Volume	0	786	29	815	45	5	23	73	3	723	4	730	33	0	18	51
% App. Total	0	96.4	3.6		61.6	6.8	31.5		0.4	99	0.5		64.7	0	35.3	
PHF	.000	.923	.518	.930	.804	.417	.639	.793	.750	.927	.500	.931	.750	.000	.500	.638
Cars	0	771	29	800	45	5	23	73	3	707	4	714	32	0	18	50
% Cars	0	98.1	100	98.2	100	100	100	100	100	97.8	100	97.8	97	0	100	98
Trucks	0	15	0	15	0	0	0	0	0	16	0	16	1	0	0	1
% Trucks	0	1.9	0	1.8	0	0	0	0	0	2.2	0	2.2	3	0	0	2



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Cloudy

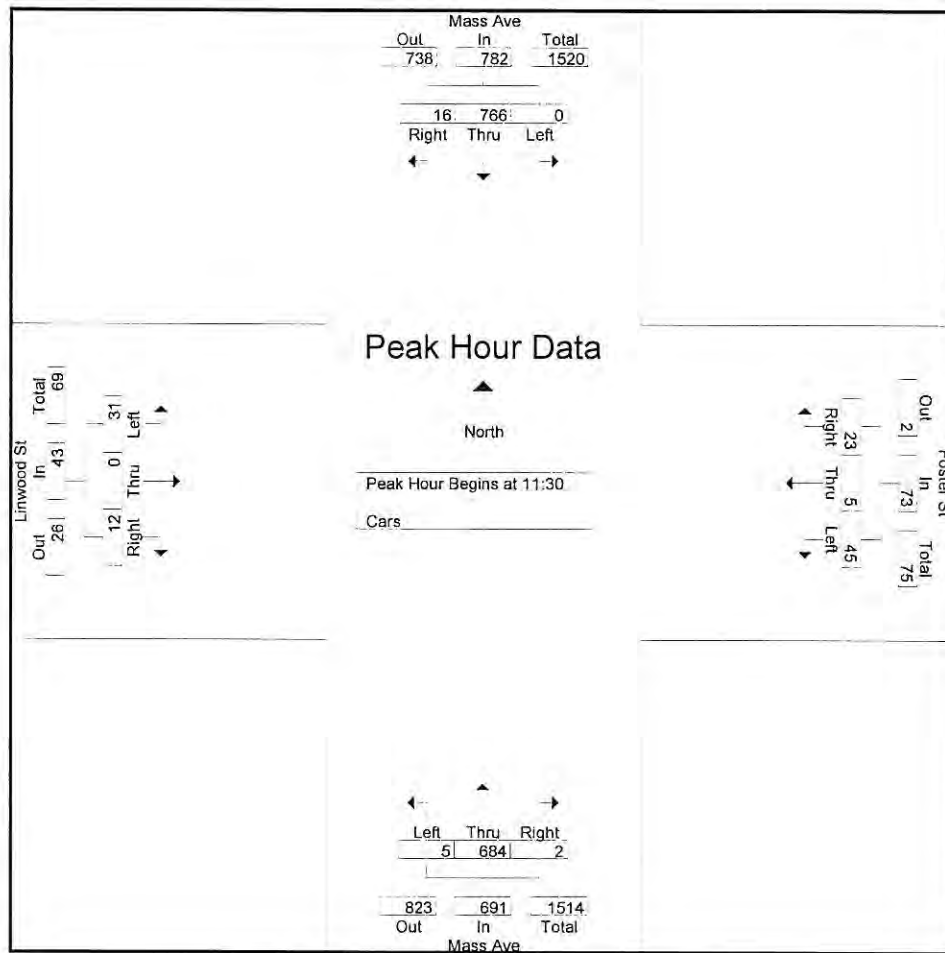
Accurate Counts
 978-664-2565

File Name : 01300001
 Site Code : 01300001
 Start Date : 5/9/2008
 Page No : 1

Groups Printed- Cars

Start Time	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
11:00	0	167	3	3	7	0	2	13	1	169	1	1	5	0	1	5	22	356	378
11:15	0	175	2	2	10	0	1	10	1	175	1	6	7	0	6	9	27	378	405
11:30	0	164	1	12	14	3	6	15	0	171	2	7	11	0	9	15	49	381	430
11:45	0	190	3	1	8	0	9	12	1	192	0	2	8	0	1	10	25	412	437
Total	0	696	9	18	39	3	18	50	3	707	4	16	31	0	17	39	123	1527	1650
12:00	0	211	6	3	13	1	2	7	2	162	0	0	6	0	2	6	16	405	421
12:15	0	201	6	2	10	1	6	7	2	159	0	3	6	0	0	8	20	391	411
12:30	0	169	14	0	6	0	4	6	3	150	0	0	2	0	1	13	19	349	368
12:45	0	173	4	9	12	0	9	6	0	183	0	2	3	0	1	3	20	385	405
Total	0	754	30	14	41	2	21	26	7	654	0	5	17	0	4	30	75	1530	1605
Grand Total	0	1450	39	32	80	5	39	76	10	1361	4	21	48	0	21	69	198	3057	3255
Apprch %	0	97.4	2.6		64.5	4	31.5		0.7	99	0.3		69.6	0	30.4				
Total %	0	47.4	1.3		2.6	0.2	1.3		0.3	44.5	0.1		1.6	0	0.7		6.1	93.9	

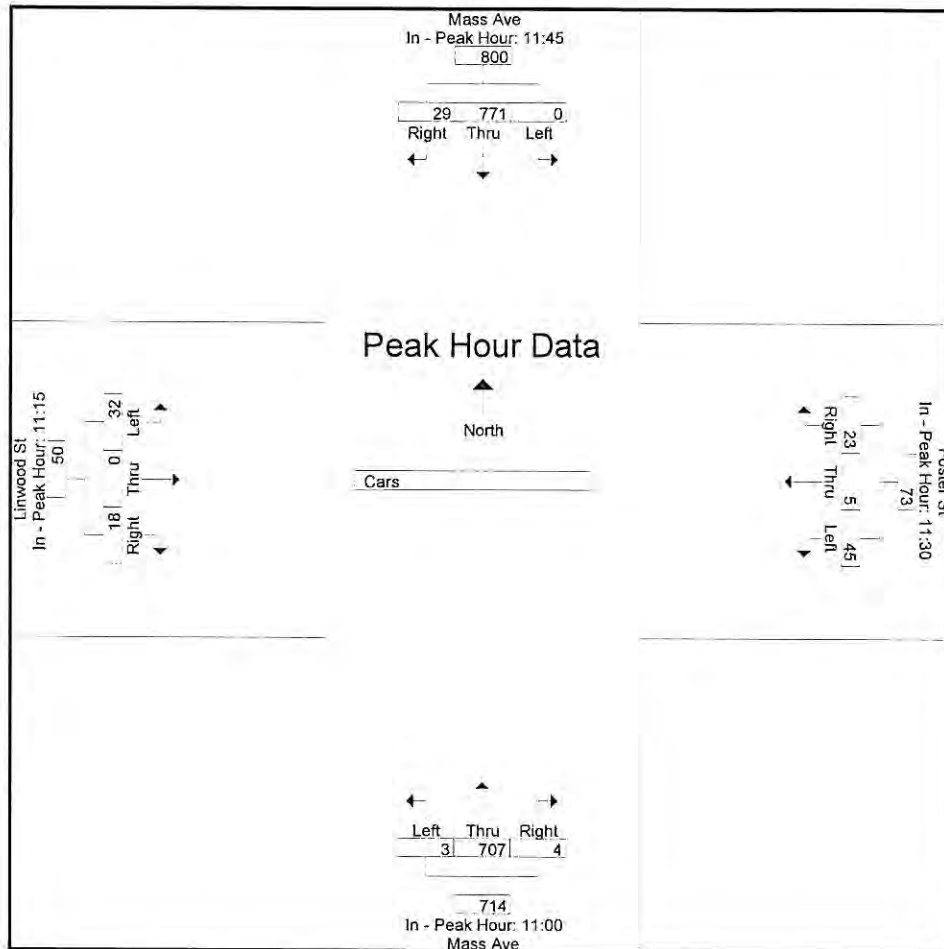
Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30																	
11:30	0	164	1	165	14	3	6	23	0	171	2	173	11	0	9	20	381
11:45	0	190	3	193	8	0	9	17	1	192	0	193	8	0	1	9	412
12:00	0	211	6	217	13	1	2	16	2	162	0	164	6	0	2	8	405
12:15	0	201	6	207	10	1	6	17	2	159	0	161	6	0	0	6	391
Total Volume	0	766	16	782	45	5	23	73	5	684	2	691	31	0	12	43	1589
% App. Total	0	98	2		61.6	6.8	31.5		0.7	99	0.3		72.1	0	27.9		
PHF	.000	.908	.667	.901	.804	.417	.639	.793	.625	.891	.250	.895	.705	.000	.333	.538	.964



Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:45				11:30				11:00				11:15			
+0 mins	0	190	3	193	14	3	6	23	1	169	1	171	7	0	6	13
+15 mins	0	211	6	217	8	0	9	17	1	175	1	177	11	0	9	20
+30 mins	0	201	6	207	13	1	2	16	0	171	2	173	8	0	1	9
+45 mins	0	169	14	183	10	1	6	17	1	192	0	193	6	0	2	8
Total Volume	0	771	29	800	45	5	23	73	3	707	4	714	32	0	18	50
% App. Total	0	96.4	3.6		61.6	6.8	31.5		0.4	99	0.6		64	0	36	
PHF	.000	.914	.518	.922	.804	.417	.639	.793	.750	.921	.500	.925	.727	.000	.500	.625



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Cloudy

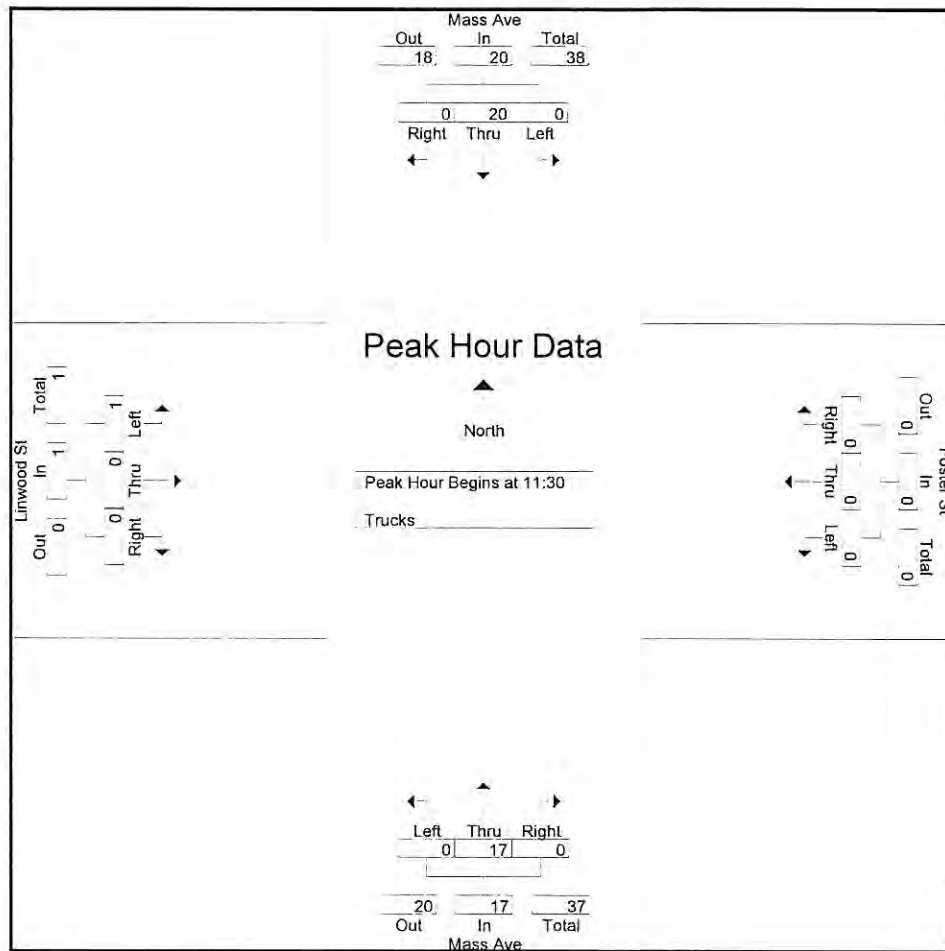
Accurate Counts
 978-664-2565

File Name : 01300001
 Site Code : 01300001
 Start Date : 5/9/2008
 Page No : 1

Groups Printed- Trucks

Start Time	Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
11:00	0	4	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	7	7
11:15	0	3	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	7	7
11:30	0	6	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	13	13
11:45	0	5	0	0	0	0	0	0	0	3	0	0	1	0	0	0	0	9	9
Total	0	18	0	0	0	0	0	0	0	16	0	0	2	0	0	0	0	36	36
12:00	0	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	6	6
12:15	0	7	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	10	10
12:30	0	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	6	6
12:45	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5	5
Total	0	14	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	27	27
Grand Total	0	32	0	0	0	0	0	0	0	29	0	0	2	0	0	0	0	63	63
Apprch %	0	100	0		0	0	0		0	100	0		100	0	0				
Total %	0	50.8	0		0	0	0		0	46	0		3.2	0	0		0	100	

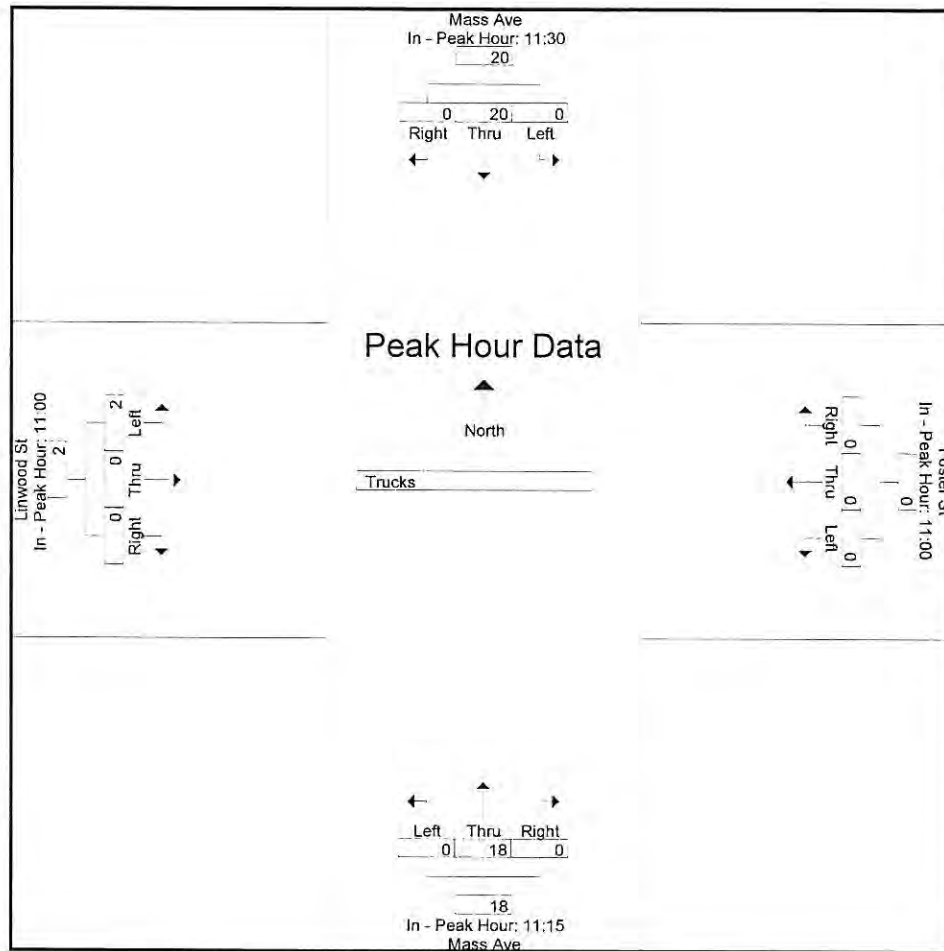
Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30																	
11:30	0	6	0	6	0	0	0	0	0	7	0	7	0	0	0	0	13
11:45	0	5	0	5	0	0	0	0	0	3	0	3	1	0	0	1	9
12:00	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6
12:15	0	7	0	7	0	0	0	0	0	3	0	3	0	0	0	0	10
Total Volume	0	20	0	20	0	0	0	0	0	17	0	17	1	0	0	1	38
% App. Total	0	100	0		0	0	0		0	100	0		100	0	0		
PHF	.000	.714	.000	.714	.000	.000	.000	.000	.000	.607	.000	.607	.250	.000	.000	.250	.731



Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:30			11:00			11:15			11:00		
+0 mins	0	6	0	6	0	0	0	0	4	0	4	1
+15 mins	0	5	0	5	0	0	0	0	7	0	7	0
+30 mins	0	2	0	2	0	0	0	0	3	0	3	0
+45 mins	0	7	0	7	0	0	0	0	4	0	4	1
Total Volume	0	20	0	20	0	0	0	0	18	0	18	2
% App. Total	0	100	0	0	0	0	0	0	100	0	100	0
PHF	.000	.714	.000	.714	.000	.000	.000	.000	.643	.000	.643	.500



N/S Street : Massachusetts Avenue
 E/W Street: Foster St / Linwood St
 City/State : Arlington, MA
 Weather : Cloudy

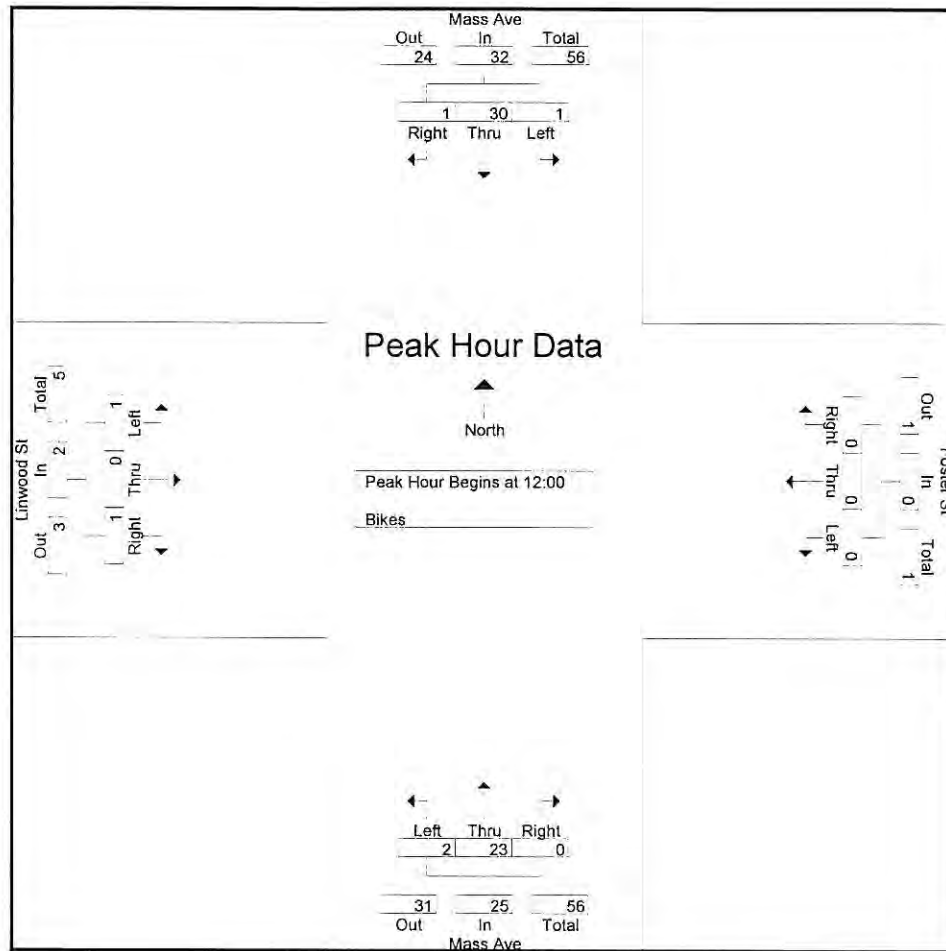
Accurate Counts
 978-664-2565

File Name : 01300001
 Site Code : 01300001
 Start Date : 5/9/2008
 Page No : 1

Groups Printed- Bikes

Start Time	Mass Ave From North			Foster St From East			Mass Ave From South			Linwood St From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	9	2	0	3	0	1	7	0	0	0	0	22
11:45	1	4	0	0	1	0	0	9	0	1	0	0	16
Total	1	13	2	0	4	0	1	16	0	1	0	0	38
12:00	0	6	0	0	0	0	0	3	0	0	0	0	9
12:15	0	1	0	0	0	0	0	4	0	0	0	0	5
12:30	0	10	0	0	0	0	0	4	0	0	0	0	14
12:45	1	13	1	0	0	0	2	12	0	1	0	1	31
Total	1	30	1	0	0	0	2	23	0	1	0	1	59
Grand Total	2	43	3	0	4	0	3	39	0	2	0	1	97
Apprch %	4.2	89.6	6.2	0	100	0	7.1	92.9	0	66.7	0	33.3	
Total %	2.1	44.3	3.1	0	4.1	0	3.1	40.2	0	2.1	0	1	

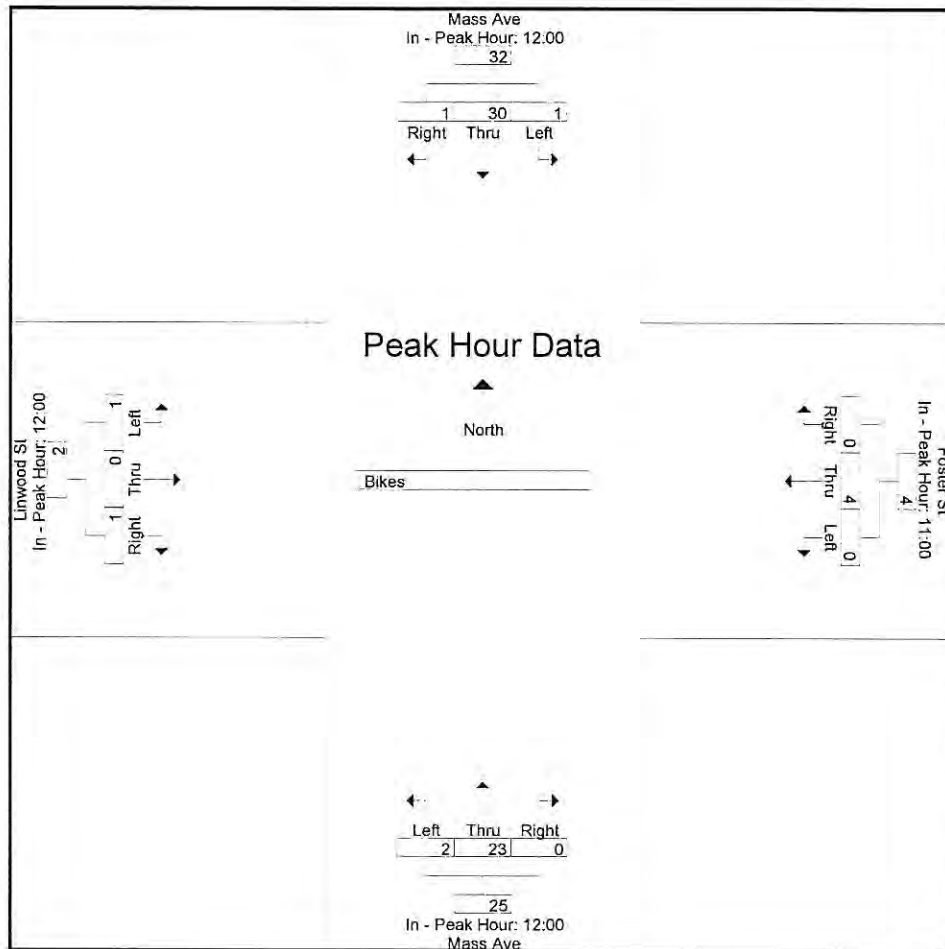
Mass Ave From North				Foster St From East				Mass Ave From South				Linwood St From West					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 to 12:45 - Peak I of 1																	
Peak Hour for Entire Intersection Begins at 12:00																	
12:00	0	6	0	6	0	0	0	0	0	3	0	3	0	0	0	0	9
12:15	0	1	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
12:30	0	10	0	10	0	0	0	0	0	4	0	4	0	0	0	0	14
12:45	1	13	1	15	0	0	0	0	2	12	0	14	1	0	1	2	31
Total Volume	1	30	1	32	0	0	0	0	2	23	0	25	1	0	1	2	59
% App. Total	3.1	93.8	3.1		0	0	0		8	92	0		50	0	50		
PHF	.250	.577	.250	.533	.000	.000	.000	.000	.250	.479	.000	.446	.250	.000	.250	.250	.476



Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:00			11:00			12:00			12:00			12:00		
+0 mins.	0	6	0	6	0	0	0	0	3	0	3	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	4	0	4	0	0	0	0
+30 mins.	0	10	0	10	0	3	0	3	0	4	0	0	0	0	0
+45 mins.	1	13	1	15	0	1	0	1	2	12	0	14	1	0	2
Total Volume	1	30	1	32	0	4	0	4	2	23	0	25	1	0	2
% App. Total	3.1	93.8	3.1	0	100	0	0	8	92	0	50	0	50	0	0
PHF	.250	.577	.250	.533	.000	.333	.000	.333	.250	.479	.000	.446	.250	.000	.250



Accurate Counts 978-664-2565

Location : Massachusetts Avenue East
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 13865

01300001B
Site Code: 013000001

Start Time	04-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	150	168
01:00	*	*	*	*	*	*	*	*	*	*	132	169	167	167	72	130
02:00	*	*	*	*	*	*	*	*	*	*	70	130	73	130	44	83
03:00	*	*	*	*	*	*	*	*	*	*	41	84	48	82	22	44
04:00	*	*	*	*	*	*	*	*	*	*	22	41	33	48	28	44
05:00	*	*	*	*	*	*	*	*	*	*	23	15	21	19	22	17
06:00	*	*	*	*	*	*	*	*	*	*	42	36	30	25	36	30
07:00	*	*	*	*	*	*	*	*	*	*	128	95	74	36	101	66
08:00	*	*	*	*	*	*	*	*	*	*	233	220	146	130	190	175
09:00	*	*	*	*	*	*	*	*	*	*	422	325	289	200	356	262
10:00	*	*	*	*	*	*	*	*	*	*	548	433	409	298	478	368
11:00	*	*	*	*	*	*	*	*	*	*	697	543	481	376	589	460
12:00 PM	*	*	*	*	*	*	*	*	*	*	757	619	654	495	716	599
01:00	*	*	*	*	*	*	*	*	*	*	635	668	629	574	732	621
02:00	*	*	*	*	*	*	*	*	*	*	815	695	620	564	718	630
03:00	*	*	*	*	*	*	*	*	*	*	722	618	631	546	676	582
04:00	*	*	*	*	*	*	*	*	*	*	655	566	648	532	652	549
05:00	*	*	*	*	*	*	*	*	*	*	713	547	546	523	630	535
06:00	*	*	*	*	*	*	*	*	*	*	665	547	561	461	613	504
07:00	*	*	*	*	*	*	*	*	*	*	579	552	532	483	556	518
08:00	*	*	*	*	*	*	*	*	*	*	542	515	507	441	524	478
09:00	*	*	*	*	*	*	*	*	*	*	426	434	364	341	395	388
10:00	*	*	*	*	*	*	*	*	*	*	395	377	254	238	324	308
11:00	*	*	*	*	*	*	*	*	*	*	338	304	158	182	248	243
Lane	0	0	0	0	0	0	0	0	0	0	10038	8757	7984	7025	9012	7893
Day	0	0	0	0	0	0	0	0	0	0	18795	15009	16905			
AM Peak											11:00	11:00	11:00	11:00	11:00	11:00
Vol.											757	619	664	499	710	559
PM Peak											12:00	13:00	15:00	12:00	12:00	13:00
Vol.											835	695	648	574	732	630

01300001B
Site Code: 01300001

Start Time	11-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average			
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB		
12:00 AM	48	90	42	69	61	90	55	85	60	102	*	*	*	*	53	87		
01:00	27	40	21	33	28	52	19	42	42	51	*	*	*	*	27	44		
02:00	18	17	12	18	19	26	16	20	24	40	*	*	*	*	18	24		
03:00	11	14	15	13	16	20	19	12	17	22	*	*	*	*	16	16		
04:00	30	11	28	9	35	20	31	16	26	20	*	*	*	*	30	15		
05:00	109	42	112	41	97	37	97	43	115	45	*	*	*	*	106	42		
06:00	385	138	379	165	400	163	384	160	337	145	*	*	*	*	377	154		
07:00	951	445	954	519	1028	700	951	540	904	473	*	*	*	*	957	535		
08:00	1079	854	1108	1215	1013	1268	1077	1114	1072	645	*	*	*	*	1070	979		
09:00	739	446	832	584	886	886	749	467	700	507	*	*	*	*	781	578		
10:00	555	420	532	449	585	449	585	460	616	456	*	*	*	*	587	444		
11:00	535	434	549	427	555	485	591	489	615	478	*	*	*	*	569	463		
12:00 PM	563	507	552	490	542	453	595	496	691	542	*	*	*	*	589	498		
01:00	546	443	598	503	574	472	579	473	602	491	*	*	*	*	580	476		
02:00	629	520	578	516	575	519	612	572	706	553	*	*	*	*	620	536		
03:00	734	646	690	661	710	606	774	647	767	698	*	*	*	*	735	652		
04:00	765	677	738	707	746	702	772	690	771	702	*	*	*	*	758	696		
05:00	821	768	904	813	842	764	960	793	916	886	*	*	*	*	889	805		
06:00	892	790	953	800	1014	752	1005	811	955	925	*	*	*	*	970	814		
07:00	597	540	686	599	641	640	656	612	661	661	*	*	*	*	648	592		
08:00	406	437	440	401	428	435	442	453	494	443	*	*	*	*	442	434		
09:00	321	329	332	360	361	328	344	328	341	397	*	*	*	*	353	352		
10:00	190	232	197	221	233	240	242	294	345	345	*	*	*	*	266	241		
11:00	107	140	144	194	146	171	133	179	233	272	*	*	*	*	153	191		
Lane	11058	8770	11426	9807	11533	10277	11735	9799	12093	9807	0	0	0	0	11569	9893		
Day	19828		21233		21810		21534		21900		0		0		21262			
AM Peak	08:00	08:00	08:00	08:00	07:00	08:00	08:00	08:00	08:00	08:00							08:00	08:00
Vol.	1079	654	1108	1215	1026	1286	1077	1114	1072	845							1070	979
PM Peak	18:00	18:00	18:00	17:00	18:00	17:00	18:00	18:00	18:00	18:00							18:00	18:00
Vol.	892	780	983	813	1014	764	1005	811	956	925							970	814

Comb.	19828	21233	21810	21534	21900	18795	15009	38167
Total								

Accurate Counts 978-664-2565

Page 1

Location : Massachusetts Avenue East
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 13865

01300001B
Site Code: 01300001

Start Time	09-May-09 Sat	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		58	213			53	154				
12:15		27	191			40	154				
12:30		29	194			42	164				
12:45		18	237	132	835	34	196	169	668	301	1503
01:00		24	185			28	169				
01:15		16	208			29	180				
01:30		10	190			31	170				
01:45		20	232	70	815	42	176	130	695	200	1510
02:00		8	184			25	154				
02:15		10	172			18	142				
02:30		11	170			22	170				
02:45		12	186	41	722	19	152	84	618	125	1340
03:00		1	166			12	147				
03:15		11	159			16	156				
03:30		9	166			6	127				
03:45		1	164	22	655	7	136	41	566	63	1221
04:00		3	192			3	140				
04:15		7	179			4	128				
04:30		6	178			6	143				
04:45		7	164	23	713	2	136	15	547	38	1260
05:00		12	195			9	138				
05:15		6	170			11	153				
05:30		14	146			6	134				
05:45		10	154	42	665	10	122	36	547	78	1212
06:00		31	157			10	123				
06:15		25	146			20	154				
06:30		30	148			23	134				
06:45		42	128	128	579	42	141	95	552	223	1131
07:00		46	138			51	128				
07:15		54	156			50	130				
07:30		60	126			69	128				
07:45		73	122	233	542	50	129	220	515	453	1057
08:00		72	98			70	133				
08:15		93	124			62	110				
08:30		117	106			97	97				
08:45		140	98	422	426	96	94	325	434	747	860
09:00		108	75			99	92				
09:15		120	100			107	98				
09:30		144	110			106	107				
09:45		176	110	548	395	121	80	433	377	981	772
10:00		144	78			118	77				
10:15		163	86			122	83				
10:30		188	94			126	76				
10:45		202	80	697	338	177	68	543	304	1240	642
11:00		174	54			144	64				
11:15		216	72			177	52				
11:30		180	48			144	61				
11:45		187	64	757	238	154	47	619	224	1376	462
Total		3115	6923			2710	6047			5825	12970
Percent		31.0%	69.0%			30.9%	69.1%			31.0%	69.0%

Accurate Counts 978-664-2565

Page 2

Location : Massachusetts Avenue East
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 13865

01300001B
Site Code: 01300001

Start Time	10-May-09 Sun	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		62	148			45	126				
12:15		35	140			50	143				
12:30		39	180			46	162				
12:45		31	161	167	629	26	143	167	574	334	1203
01:00		16	164			26	136				
01:15		22	140			30	144				
01:30		17	180			44	150				
01:45		18	136	73	620	30	134	130	564	203	1184
02:00		20	170			27	157				
02:15		10	159			22	124				
02:30		12	156			20	132				
02:45		6	146	48	631	13	133	82	546	130	1177
03:00		8	183			16	120				
03:15		9	162			8	140				
03:30		10	165			14	134				
03:45		6	138	33	648	10	138	48	532	81	1180
04:00		9	150			8	126				
04:15		6	118			4	132				
04:30		2	142			3	130				
04:45		4	136	21	546	4	135	19	523	40	1069
05:00		6	139			4	123				
05:15		10	141			4	102				
05:30		6	150			9	106				
05:45		8	131	30	561	8	130	25	461	55	1022
06:00		10	140			6	123				
06:15		20	124			10	120				
06:30		20	135			8	113				
06:45		24	133	74	532	12	127	36	483	110	1015
07:00		31	155			26	120				
07:15		30	122			27	114				
07:30		30	126			29	110				
07:45		55	104	146	507	48	97	130	441	276	948
08:00		57	121			51	116				
08:15		73	81			45	60				
08:30		75	84			44	93				
08:45		84	78	289	364	60	72	200	341	489	705
09:00		88	64			61	54				
09:15		90	70			64	66				
09:30		107	66			86	72				
09:45		124	54	409	254	87	46	298	238	707	492
10:00		120	44			101	56				
10:15		99	53			84	50				
10:30		138	31			94	44				
10:45		124	30	481	158	97	32	376	182	857	340
11:00		170	30			132	30				
11:15		168	27			136	40				
11:30		142	22			106	31				
11:45		184	20	664	99	125	29	499	130	1163	229
Total		2435	5549			2010	5015			4445	10564
Percent		30.5%	69.5%			28.6%	71.4%			29.6%	70.4%

Accurate Counts 978-664-2565

Page 3

Location : Massachusetts Avenue East
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 13865

01300001B
Site Code: 01300001

Start Time	11-May-09 Mon	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	138			22	120				
12:15		10	155			22	134				
12:30		10	128			26	134				
12:45		12	142	48	563	20	119	90	507	138	1070
01:00		10	152			12	114				
01:15		6	148			17	114				
01:30		7	114			3	98				
01:45		4	132	27	546	8	117	40	443	67	989
02:00		10	159			6	136				
02:15		2	150			3	132				
02:30		6	158			6	123				
02:45		0	162	18	629	2	129	17	520	35	1149
03:00		0	180			4	148				
03:15		3	192			4	148				
03:30		3	190			4	174				
03:45		5	172	11	734	2	176	14	646	25	1380
04:00		5	196			2	158				
04:15		11	163			4	182				
04:30		5	188			3	176				
04:45		9	218	30	765	2	161	11	677	41	1442
05:00		17	200			2	191				
05:15		15	212			12	192				
05:30		34	204			10	200				
05:45		43	205	109	821	18	185	42	768	151	1589
06:00		43	223			16	214				
06:15		69	223			26	202				
06:30		130	246			46	198				
06:45		143	200	385	892	50	166	138	780	523	1672
07:00		169	182			66	144				
07:15		228	168			108	152				
07:30		262	126			129	127				
07:45		292	121	951	597	142	117	445	540	1396	1137
08:00		261	122			140	132				
08:15		280	106			160	116				
08:30		252	90			148	115				
08:45		286	88	1079	406	208	74	654	437	1733	843
09:00		220	103			124	102				
09:15		182	98			120	82				
09:30		155	66			82	72				
09:45		182	54	739	321	120	73	446	329	1185	650
10:00		139	52			90	67				
10:15		148	56			124	60				
10:30		138	44			96	56				
10:45		130	38	555	190	110	49	420	232	975	422
11:00		144	42			100	40				
11:15		127	28			104	41				
11:30		122	21			106	37				
11:45		142	16	535	107	124	22	434	140	969	247
Total		4487	6571			2751	6019			7238	12590
Percent		40.6%	59.4%			31.4%	68.6%			36.5%	63.5%

Accurate Counts 978-664-2565

Page 4

Location : Massachusetts Avenue East
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 13865

01300001B
Site Code: 01300001

Start Time	12-May-09 Tue	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	127			18	122				
12:15		10	142			24	134				
12:30		11	145			11	124				
12:45		8	138	42	552	16	110	69	490	111	1042
01:00		6	138			6	137				
01:15		4	153			10	116				
01:30		6	141			10	124				
01:45		5	166	21	598	7	126	33	503	54	1101
02:00		4	154			4	118				
02:15		1	138			3	126				
02:30		1	138			3	136				
02:45		6	148	12	578	8	136	18	516	30	1094
03:00		0	171			3	162				
03:15		2	159			4	152				
03:30		7	178			4	150				
03:45		6	182	15	690	2	197	13	661	28	1351
04:00		4	172			1	177				
04:15		5	194			2	185				
04:30		10	160			4	168				
04:45		9	212	28	738	2	177	9	707	37	1445
05:00		23	184			6	169				
05:15		21	226			11	188				
05:30		31	244			12	220				
05:45		37	250	112	904	12	236	41	813	153	1717
06:00		44	242			20	200				
06:15		66	264			32	210				
06:30		110	260			45	204				
06:45		159	217	379	983	68	186	165	800	544	1783
07:00		144	187			70	159				
07:15		230	178			103	165				
07:30		272	159			150	133				
07:45		308	162	954	686	196	142	519	599	1473	1285
08:00		292	110			317	109				
08:15		296	138			320	104				
08:30		266	102			292	104				
08:45		254	90	1108	440	286	84	1215	401	2323	841
09:00		243	80			208	96				
09:15		235	96			140	100				
09:30		190	84			123	68				
09:45		164	73	832	332	113	96	584	360	1416	692
10:00		121	61			114	62				
10:15		128	54			127	54				
10:30		130	36			108	45				
10:45		153	46	532	197	100	60	449	221	981	418
11:00		143	44			114	59				
11:15		118	40			87	54				
11:30		124	36			110	44				
11:45		164	24	549	144	116	37	427	194	976	338
Total		4584	6842			3542	6265			8126	13107
Percent		40.1%	59.9%			36.1%	63.9%			38.3%	61.7%

Accurate Counts 978-664-2565

Page 5

Location : Massachusetts Avenue East
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 13865

01300001B
Site Code: 01300001

Start Time	13-May-09 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	158			21	116				
12:15		16	135			26	120				
12:30		19	107			24	107				
12:45		13	142	61	542	19	110	90	453	151	995
01:00		4	160			13	98				
01:15		8	136			10	115				
01:30		8	130			13	130				
01:45		8	148	28	574	16	129	52	472	80	1046
02:00		8	129			4	124				
02:15		4	142			8	123				
02:30		3	142			7	144				
02:45		4	162	19	575	7	128	26	519	45	1094
03:00		4	164			9	146				
03:15		4	183			4	152				
03:30		3	176			3	166				
03:45		5	177	16	710	4	142	20	606	36	1316
04:00		6	180			3	154				
04:15		8	174			6	172				
04:30		6	198			6	188				
04:45		15	194	35	746	5	188	20	702	55	1448
05:00		18	211			5	179				
05:15		17	190			8	184				
05:30		24	221			10	198				
05:45		38	220	97	842	14	203	37	764	134	1606
06:00		46	292			24	197				
06:15		73	256			31	172				
06:30		119	248			48	180				
06:45		162	218	400	1014	60	203	163	752	563	1766
07:00		188	173			63	160				
07:15		264	160			121	194				
07:30		306	148			188	152				
07:45		268	160	1026	641	328	134	700	640	1726	1281
08:00		292	129			320	120				
08:15		253	108			300	110				
08:30		234	86			301	108				
08:45		234	105	1013	428	345	97	1266	435	2279	863
09:00		261	90			336	98				
09:15		234	106			256	90				
09:30		215	84			161	80				
09:45		176	81	886	361	133	76	886	344	1772	705
10:00		156	80			108	78				
10:15		155	59			103	72				
10:30		144	56			112	46				
10:45		130	38	585	233	111	44	434	240	1019	473
11:00		132	46			113	46				
11:15		149	46			128	58				
11:30		129	26			122	38				
11:45		145	28	555	146	122	29	485	171	1040	317
Total		4721	6812			4179	6098			8900	12910
Percent		40.9%	59.1%			40.7%	59.3%			40.8%	59.2%

Accurate Counts 978-664-2565

Page 6

Location : Massachusetts Avenue East
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 13865

01300001B
Site Code: 01300001

Start Time	14-May-09 Thu	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		14	150			26	130				
12:15		16	133			20	132				
12:30		16	146			24	114				
12:45		9	166	55	595	15	120	85	496	140	1091
01:00		4	137			5	112				
01:15		6	167			12	121				
01:30		5	140			13	126				
01:45		4	135	19	579	12	114	42	473	61	1052
02:00		6	154			5	140				
02:15		3	144			6	158				
02:30		2	152			8	144				
02:45		5	162	16	612	1	132	20	572	36	1184
03:00		6	185			5	158				
03:15		3	202			3	164				
03:30		4	178			2	149				
03:45		6	209	19	774	2	176	12	647	31	1421
04:00		7	194			2	146				
04:15		8	162			2	182				
04:30		6	194			8	172				
04:45		10	222	31	772	4	190	16	690	47	1462
05:00		16	236			2	190				
05:15		16	236			9	197				
05:30		31	238			15	184				
05:45		34	250	97	960	17	222	43	793	140	1753
06:00		48	242			23	207				
06:15		82	261			31	204				
06:30		104	256			42	223				
06:45		150	246	384	1005	64	177	160	811	544	1816
07:00		156	196			88	182				
07:15		244	178			96	142				
07:30		264	140			150	138				
07:45		287	142	951	656	206	150	540	612	1491	1268
08:00		266	138			264	130				
08:15		292	122			290	118				
08:30		269	94			287	107				
08:45		250	88	1077	442	273	98	1114	453	2191	895
09:00		234	114			140	99				
09:15		190	93			120	90				
09:30		187	70			104	64				
09:45		138	51	749	328	103	78	467	331	1216	659
10:00		162	68			98	84				
10:15		167	66			116	96				
10:30		167	55			130	54				
10:45		152	53	648	242	116	60	460	294	1108	536
11:00		156	35			130	44				
11:15		156	40			106	41				
11:30		127	30			140	46				
11:45		152	28	591	133	113	48	489	179	1080	312
Total		4637	7098			3448	6351			8085	13449
Percent		39.5%	60.5%			35.2%	64.8%			37.5%	62.5%

Accurate Counts 978-664-2565

Page 7

Location : Massachusetts Avenue East
Location : of Thorndike Street
City/State: Arlington, MA
Counter : 13865

01300001B
Site Code: 01300001

Start Time	15-May-09 Fri	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		24	192			27	122				
12:15		14	154			34	141				
12:30		10	180			24	144				
12:45		12	165	60	691	17	135	102	542	162	1233
01:00		12	145			20	116				
01:15		10	156			9	110				
01:30		10	145			10	130				
01:45		10	156	42	602	12	135	51	491	93	1093
02:00		8	161			12	128				
02:15		4	196			12	136				
02:30		6	153			10	132				
02:45		6	196	24	706	6	157	40	553	64	1259
03:00		4	174			7	172				
03:15		5	199			9	178				
03:30		6	184			4	180				
03:45		2	210	17	767	2	168	22	698	39	1465
04:00		6	238			3	206				
04:15		6	184			6	188				
04:30		6	180			4	164				
04:45		8	169	26	771	7	164	20	702	46	1473
05:00		13	232			6	188				
05:15		18	198			8	212				
05:30		34	226			20	214				
05:45		50	260	115	916	11	272	45	886	160	1802
06:00		40	245			23	216				
06:15		64	240			26	285				
06:30		96	257			34	240				
06:45		137	214	337	956	62	184	145	925	482	1881
07:00		146	196			60	148				
07:15		206	159			103	139				
07:30		259	154			120	134				
07:45		293	152	904	661	190	148	473	569	1377	1230
08:00		310	122			182	104				
08:15		286	142			130	104				
08:30		248	100			171	118				
08:45		228	130	1072	494	162	117	645	443	1717	937
09:00		204	106			130	100				
09:15		174	118			124	104				
09:30		166	89			109	90				
09:45		156	110	700	423	144	103	507	397	1207	820
10:00		172	100			124	99				
10:15		160	98			112	86				
10:30		144	70			112	70				
10:45		140	77	616	345	108	90	456	345	1072	690
11:00		151	70			108	82				
11:15		146	78			126	62				
11:30		140	50			118	64				
11:45		178	35	615	233	126	64	478	272	1093	505
Total		4528	7565			2984	6823			7512	14388
Percent		37.4%	62.6%			30.4%	69.6%			34.3%	65.7%
Grand Total		28507	47360			21624	42618			50131	89978
Percent		37.6%	62.4%			33.7%	66.3%			35.8%	64.2%

ADT

ADT 20,016

AADT 20,016

Accurate Counts 978-664-2565

Page 1

Location : Massachusetts Avenue East
Location : of Foster Street
City/State: Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	08-May-09		WB		Hour Totals		EB		Hour Totals		Combined Totals	
	Fri		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00			22	173			19	214				
12:15			18	187			8	202				
12:30			14	178			10	236				
12:45			12	153	66	671	14	189	51	841	117	1512
01:00			12	166			6	201				
01:15			14	168			8	209				
01:30			14	156			2	155				
01:45			6	168	46	658	7	195	23	760	69	1418
02:00			5	173			4	236				
02:15			8	178			6	198				
02:30			10	180			6	193				
02:45			6	178	29	709	6	228	22	853	51	1562
03:00			2	200			0	205				
03:15			3	176			4	250				
03:30			3	170			2	230				
03:45			4	194	12	740	2	242	8	927	20	1667
04:00			6	178			4	218				
04:15			3	191			5	226				
04:30			2	190			4	252				
04:45			8	184	19	743	8	218	21	914	40	1657
05:00			7	172			18	250				
05:15			17	200			18	274				
05:30			14	186			24	267				
05:45			22	189	60	747	34	278	94	1069	154	1816
06:00			26	178			45	244				
06:15			34	194			58	262				
06:30			61	192			86	248				
06:45			70	147	191	711	121	254	310	1008	501	1719
07:00			83	186			138	238				
07:15			116	126			183	210				
07:30			160	135			242	166				
07:45			177	126	536	573	282	174	845	788	1381	1361
08:00			150	110			288	139				
08:15			164	122			266	138				
08:30			167	102			258	134				
08:45			180	95	661	429	246	127	1058	538	1719	967
09:00			130	86			198	111				
09:15			143	90			197	109				
09:30			131	92			164	128				
09:45			148	94	552	362	202	94	761	442	1313	804
10:00			132	78			160	82				
10:15			124	82			192	56				
10:30			136	77			170	84				
10:45			160	74	552	311	166	64	688	286	1240	597
11:00			132	76			172	58				
11:15			140	51			178	62				
11:30			152	56			191	48				
11:45			151	44	575	227	186	46	727	214	1302	441
Total			3299	6881			4608	8640			7907	15521
Percent			32.4%	67.6%			34.8%	65.2%			33.8%	66.2%

Accurate Counts 978-664-2565

Page 2

Location : Massachusetts Avenue East
Location : of Foster Street
City/State: Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	09-May-09 Sat	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		36	179			36	256				
12:15		31	184			27	254				
12:30		29	170			20	245				
12:45		18	202	114	735	16	245	99	1000	213	1735
01:00		21	184			20	252				
01:15		18	208			12	238				
01:30		24	166			12	246				
01:45		31	186	94	744	13	220	57	956	151	1700
02:00		18	176			10	206				
02:15		9	142			2	172				
02:30		13	192			2	214				
02:45		13	190	53	700	10	216	24	808	77	1508
03:00		13	162			2	193				
03:15		8	163			8	208				
03:30		10	156			8	195				
03:45		5	157	36	638	2	192	20	788	56	1426
04:00		5	162			3	202				
04:15		2	135			7	200				
04:30		5	134			4	204				
04:45		6	142	18	573	6	206	20	812	38	1385
05:00		10	159			9	209				
05:15		12	149			10	198				
05:30		12	131			12	175				
05:45		8	134	42	573	20	197	51	777	93	1350
06:00		18	138			19	172				
06:15		23	140			22	186				
06:30		33	157			30	174				
06:45		48	136	122	571	52	191	123	723	245	1294
07:00		78	138			65	180				
07:15		82	119			73	176				
07:30		88	140			91	186				
07:45		88	128	336	525	90	146	319	688	655	1213
08:00		68	126			84	118				
08:15		88	116			97	147				
08:30		113	99			168	130				
08:45		132	100	401	441	143	116	492	511	893	952
09:00		141	106			140	102				
09:15		140	138			134	112				
09:30		148	131			173	129				
09:45		168	65	597	440	213	105	660	448	1257	888
10:00		176	65			246	82				
10:15		183	81			219	92				
10:30		189	60			247	86				
10:45		204	58	752	264	242	78	954	338	1706	602
11:00		184	48			237	50				
11:15		162	45			238	62				
11:30		214	47			266	43				
11:45		204	39	764	179	254	36	995	191	1759	370
Total		3329	6383			3814	8040			7143	14423
Percent		34.3%	65.7%			32.2%	67.8%			33.1%	66.9%

Accurate Counts 978-664-2565

Page 3

Location : Massachusetts Avenue East
Location : of Foster Street
City/State: Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	10-May-09 Sun	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		38	159			38	186				
12:15		30	156			28	188				
12:30		34	154			26	220				
12:45		16	160	118	629	16	202	108	794	226	1423
01:00		9	150			11	190				
01:15		15	152			7	178				
01:30		25	139			14	210				
01:45		22	152	71	593	8	184	40	772	111	1365
02:00		19	158			8	224				
02:15		14	166			10	204				
02:30		12	142			8	167				
02:45		11	128	56	594	7	148	33	743	89	1337
03:00		8	148			6	201				
03:15		10	152			4	181				
03:30		15	136			8	174				
03:45		4	146	37	582	1	184	19	740	56	1322
04:00		4	150			7	187				
04:15		3	114			1	164				
04:30		1	140			0	174				
04:45		4	149	12	553	4	186	12	711	24	1264
05:00		3	132			4	160				
05:15		5	132			9	166				
05:30		8	118			9	153				
05:45		12	118	28	500	9	165	31	644	59	1144
06:00		10	122			14	156				
06:15		14	134			18	167				
06:30		19	142			18	172				
06:45		33	119	76	517	28	149	78	644	154	1181
07:00		36	140			34	145				
07:15		28	113			36	171				
07:30		50	106			45	145				
07:45		72	89	186	448	70	122	185	583	371	1031
08:00		57	108			74	118				
08:15		58	71			75	108				
08:30		78	84			112	95				
08:45		90	60	283	323	115	65	376	386	659	709
09:00		96	65			134	81				
09:15		84	55			95	81				
09:30		110	60			138	65				
09:45		105	43	395	223	140	53	507	280	902	503
10:00		108	58			142	46				
10:15		128	43			150	42				
10:30		120	41			163	36				
10:45		107	26	463	168	155	26	610	150	1073	318
11:00		150	22			176	22				
11:15		153	30			180	23				
11:30		130	19			158	17				
11:45		162	21	595	92	178	12	692	74	1287	166
Total		2320	5222			2691	6521			5011	11743
Percent		30.8%	69.2%			29.2%	70.8%			29.9%	70.1%

Accurate Counts 978-664-2565

Page 4

Location : Massachusetts Avenue East
Location : of Foster Street
City/State: Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	11-May-09 Mon	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		15	154			12	190				
12:15		15	126			10	168				
12:30		19	134			12	184				
12:45		12	136	61	550	8	166	42	708	103	1258
01:00		8	130			7	178				
01:15		5	143			7	200				
01:30		4	113			6	158				
01:45		2	152	19	538	6	170	26	708	45	1244
02:00		6	156			7	186				
02:15		4	172			2	172				
02:30		6	136			2	202				
02:45		4	187	20	651	0	230	11	790	31	1441
03:00		6	190			0	252				
03:15		2	185			2	230				
03:30		3	168			3	203				
03:45		1	189	12	732	1	210	6	895	18	1627
04:00		2	192			4	226				
04:15		3	168			9	210				
04:30		4	178			2	226				
04:45		6	176	15	714	13	248	28	910	43	1624
05:00		11	188			14	262				
05:15		14	200			19	254				
05:30		14	198			37	264				
05:45		30	168	89	754	38	217	108	997	177	1751
06:00		16	208			30	264				
06:15		26	198			64	230				
06:30		50	190			98	235				
06:45		74	172	166	768	126	210	318	939	484	1707
07:00		94	160			174	190				
07:15		122	139			199	170				
07:30		160	113			256	164				
07:45		151	112	527	524	262	142	891	666	1418	1190
08:00		150	132			230	159				
08:15		164	104			272	110				
08:30		142	94			268	102				
08:45		158	80	614	410	227	119	997	490	1611	900
09:00		124	88			190	117				
09:15		104	80			176	90				
09:30		100	86			159	84				
09:45		152	60	480	314	171	50	696	341	1176	655
10:00		124	52			152	72				
10:15		142	55			176	70				
10:30		131	42			148	37				
10:45		116	30	513	179	134	31	610	210	1123	389
11:00		136	30			159	30				
11:15		129	24			145	37				
11:30		156	21			180	14				
11:45		118	21	539	96	171	15	655	96	1194	192
Total		3035	6230			4388	7748			7423	13978
Percent		32.8%	67.2%			36.2%	63.8%			34.7%	65.3%

Accurate Counts 978-664-2565

Page 5

Location : Massachusetts Avenue East
Location : of Foster Street
City/State: Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	12-May-09 Tue	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	148			10	180				
12:15		11	150			17	200				
12:30		8	138			7	176				
12:45		10	126	45	562	2	158	36	714	81	1276
01:00		2	158			3	150				
01:15		7	138			2	168				
01:30		7	146			4	182				
01:45		4	129	20	571	4	191	13	691	33	1262
02:00		3	156			1	174				
02:15		3	154			2	186				
02:30		3	154			1	168				
02:45		6	146	15	610	2	206	6	734	21	1344
03:00		3	168			2	235				
03:15		6	160			5	190				
03:30		4	180			5	216				
03:45		2	187	15	695	4	231	16	872	31	1567
04:00		3	190			4	216				
04:15		3	186			2	209				
04:30		8	164			12	198				
04:45		7	190	21	710	9	218	27	841	48	1551
05:00		8	212			22	280				
05:15		16	222			24	278				
05:30		17	226			27	304				
05:45		18	233	59	893	30	294	103	1156	162	2049
06:00		24	208			42	293				
06:15		35	212			71	262				
06:30		48	200			86	254				
06:45		66	184	173	804	136	253	335	1062	508	1866
07:00		83	174			153	217				
07:15		114	172			200	192				
07:30		162	125			243	180				
07:45		212	138	571	609	336	174	932	763	1503	1372
08:00		168	115			295	132				
08:15		163	98			282	127				
08:30		175	82			271	112				
08:45		190	83	696	378	248	93	1096	464	1792	842
09:00		150	90			228	122				
09:15		134	77			204	120				
09:30		151	50			178	84				
09:45		139	68	574	285	172	75	782	401	1356	686
10:00		112	60			169	62				
10:15		128	41			148	49				
10:30		122	47			162	36				
10:45		133	43	495	191	176	38	655	185	1150	376
11:00		131	38			170	35				
11:15		124	48			147	32				
11:30		114	36			164	24				
11:45		147	22	516	144	204	22	685	113	1201	257
Total		3200	6452			4686	7996			7886	14448
Percent		33.2%	66.8%			37.0%	63.0%			35.3%	64.7%

Accurate Counts 978-664-2565

Page 6

Location : Massachusetts Avenue East
Location : of Foster Street
City/State: Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	13-May-09 Wed	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		12	140			12	192				
12:15		14	132			17	187				
12:30		20	144			16	189				
12:45		12	125	58	541	11	164	56	732	114	1273
01:00		8	126			5	202				
01:15		7	130			8	165				
01:30		9	147			4	178				
01:45		10	133	34	536	10	160	27	705	61	1241
02:00		5	140			4	205				
02:15		3	142			2	180				
02:30		4	144			1	180				
02:45		10	160	22	586	1	210	8	775	30	1361
03:00		5	198			2	243				
03:15		2	156			3	210				
03:30		2	216			2	228				
03:45		3	162	12	732	2	202	9	883	21	1615
04:00		6	182			4	203				
04:15		3	164			6	200				
04:30		8	201			11	258				
04:45		9	172	26	719	10	228	31	889	57	1608
05:00		13	211			13	256				
05:15		18	197			21	243				
05:30		13	207			28	273				
05:45		20	216	64	831	30	253	92	1025	156	1856
06:00		42	196			47	258				
06:15		42	170			61	268				
06:30		56	168			86	242				
06:45		73	188	213	722	128	231	322	999	535	1721
07:00		74	168			166	211				
07:15		124	164			182	196				
07:30		172	142			286	180				
07:45		148	146	518	620	288	149	922	735	1440	1355
08:00		177	132			310	130				
08:15		226	127			288	144				
08:30		188	105			278	120				
08:45		174	80	765	444	262	101	1138	495	1903	939
09:00		153	91			228	108				
09:15		124	88			189	106				
09:30		138	64			204	100				
09:45		150	50	565	293	197	70	818	383	1383	676
10:00		141	74			180	74				
10:15		123	57			180	54				
10:30		136	44			168	40				
10:45		125	33	525	208	160	47	688	215	1213	423
11:00		139	39			176	50				
11:15		144	28			214	42				
11:30		138	24			196	20				
11:45		144	20	565	111	184	17	770	129	1335	240
Total		3367	6343			4881	7965			8248	14308
Percent		34.7%	65.3%			38.0%	62.0%			36.6%	63.4%

Accurate Counts 978-664-2565

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Location : Massachusetts Avenue East
Location : of Foster Street
City/State: Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	14-May-09 Thu	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		18	156			18	226				
12:15		18	134			12	224				
12:30		16	134			16	216				
12:45		13	148	63	572	8	168	54	834	117	1406
01:00		7	140			6	194				
01:15		6	126			2	155				
01:30		9	140			3	167				
01:45		6	133	28	539	6	183	17	699	45	1238
02:00		3	146			2	209				
02:15		8	204			1	213				
02:30		4	151			3	212				
02:45		1	164	16	665	6	226	12	860	28	1525
03:00		4	182			6	242				
03:15		3	174			0	236				
03:30		2	191			1	214				
03:45		2	184	11	731	6	204	13	896	24	1627
04:00		2	213			6	204				
04:15		3	191			5	208				
04:30		8	166			5	218				
04:45		6	182	19	752	13	208	29	838	48	1590
05:00		8	182			12	251				
05:15		14	230			16	258				
05:30		22	210			31	252				
05:45		20	199	64	821	34	272	93	1033	157	1854
06:00		25	219			38	256				
06:15		36	232			71	285				
06:30		62	212			74	273				
06:45		68	186	191	849	121	240	304	1054	495	1903
07:00		78	166			180	252				
07:15		104	142			208	207				
07:30		180	138			272	158				
07:45		162	120	524	566	286	159	948	776	1470	1342
08:00		152	108			267	144				
08:15		179	116			302	141				
08:30		202	98			292	98				
08:45		198	84	731	406	246	99	1107	482	1838	888
09:00		130	90			228	114				
09:15		154	98			176	92				
09:30		102	68			182	72				
09:45		134	68	520	324	161	66	747	344	1267	668
10:00		118	68			158	78				
10:15		134	64			166	58				
10:30		152	40			172	52				
10:45		111	42	515	214	190	36	686	224	1201	438
11:00		140	28			169	22				
11:15		134	31			169	36				
11:30		155	36			193	26				
11:45		140	34	569	129	221	20	752	104	1321	233
Total		3251	6568			4760	8144			8011	14712
Percent		33.1%	66.9%			36.9%	63.1%			35.3%	64.7%
Grand Total		21801	44079			29828	55054			51629	99133
Percent		33.1%	66.9%			35.1%	64.9%			34.2%	65.8%

ADT

ADT 21,537

AADT 21,537

Accurate Counts 978-664-2565

Location : Massachusetts Avenue East
Location : of Foster Street
City/State: Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	04-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	*	*	*	*	66	51	114	99	118	108	99	86
01:00	*	*	*	*	*	*	*	*	48	23	94	57	71	40	70	40
02:00	*	*	*	*	*	*	*	*	29	22	53	24	56	33	46	26
03:00	*	*	*	*	*	*	*	*	12	8	36	20	37	19	28	16
04:00	*	*	*	*	*	*	*	*	19	21	18	20	12	12	16	18
05:00	*	*	*	*	*	*	*	*	60	94	42	51	28	31	43	59
06:00	*	*	*	*	*	*	*	*	191	310	122	123	76	78	130	170
07:00	*	*	*	*	*	*	*	*	536	845	336	319	186	185	353	450
08:00	*	*	*	*	*	*	*	*	661	1058	401	492	283	376	448	642
09:00	*	*	*	*	*	*	*	*	552	761	597	660	395	507	515	643
10:00	*	*	*	*	*	*	*	*	552	688	752	954	463	610	589	751
11:00	*	*	*	*	*	*	*	*	575	727	764	985	595	692	645	805
12:00 PM	*	*	*	*	*	*	*	*	671	841	735	1000	629	794	876	878
01:00	*	*	*	*	*	*	*	*	658	760	744	956	593	772	665	829
02:00	*	*	*	*	*	*	*	*	709	853	700	808	594	743	668	801
03:00	*	*	*	*	*	*	*	*	740	927	638	788	582	740	653	818
04:00	*	*	*	*	*	*	*	*	743	914	573	812	553	711	623	812
05:00	*	*	*	*	*	*	*	*	747	1058	573	777	500	644	607	830
06:00	*	*	*	*	*	*	*	*	711	1008	571	723	517	644	600	792
07:00	*	*	*	*	*	*	*	*	573	788	525	688	448	583	515	686
08:00	*	*	*	*	*	*	*	*	429	538	441	511	323	386	398	478
09:00	*	*	*	*	*	*	*	*	362	442	440	448	223	280	342	390
10:00	*	*	*	*	*	*	*	*	311	286	264	338	168	150	248	258
11:00	*	*	*	*	*	*	*	*	227	214	179	191	92	74	166	160
Lane	0	0	0	0	0	0	0	0	10180	13248	9712	11854	7542	9212	9145	11438
Day	0	0	0	0	0	0	0	0	23428	21566	21566	16754	20583			
AM Peak Vol.									08:00	08:00	11:00	11:00	11:00	11:00	11:00	11:00
PM Peak Vol.									17:00	17:00	13:00	12:00	12:00	12:00	12:00	12:00
									881	1058	764	995	595	692	645	805
									747	1069	744	1000	629	794	678	878

Accurate Counts 978-664-2565

Location : Massachusetts Avenue East
Location : of Foster Street
City/State : Arlington, MA
Counter : 10109

01300002B
Site Code: 01300002

Start Time	11-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	61	42	45	36	58	56	63	54	*	*	*	*	*	*	57	47
01:00	19	26	20	13	34	27	28	17	*	*	*	*	*	*	25	21
02:00	20	11	15	6	22	8	16	12	*	*	*	*	*	*	18	9
03:00	12	6	15	16	12	9	11	13	*	*	*	*	*	*	12	11
04:00	15	28	21	27	26	31	19	29	*	*	*	*	*	*	20	29
05:00	69	108	59	103	64	92	64	93	*	*	*	*	*	*	64	99
06:00	166	318	173	335	213	322	191	304	*	*	*	*	*	*	186	320
07:00	527	991	571	932	518	922	524	946	*	*	*	*	*	*	535	923
08:00	614	997	896	1096	765	1135	731	1107	*	*	*	*	*	*	702	1084
09:00	480	696	574	782	565	818	520	747	*	*	*	*	*	*	535	781
10:00	513	610	495	655	525	688	515	686	*	*	*	*	*	*	512	660
11:00	539	655	516	685	585	770	569	752	*	*	*	*	*	*	547	716
12:00 PM	550	708	562	714	541	732	572	834	*	*	*	*	*	*	556	747
01:00	538	706	571	691	536	705	539	699	*	*	*	*	*	*	546	700
02:00	651	790	610	734	586	775	665	860	*	*	*	*	*	*	628	790
03:00	732	895	695	872	732	883	731	896	*	*	*	*	*	*	722	886
04:00	714	910	710	841	719	889	752	838	*	*	*	*	*	*	724	870
05:00	754	997	893	1153	831	1025	821	1033	*	*	*	*	*	*	825	1053
06:00	769	939	804	1062	722	999	849	1054	*	*	*	*	*	*	786	1014
07:00	524	666	609	763	620	735	566	776	*	*	*	*	*	*	580	735
08:00	410	490	378	464	444	495	406	482	*	*	*	*	*	*	410	483
09:00	314	341	285	401	293	383	324	344	*	*	*	*	*	*	304	367
10:00	179	210	191	185	208	215	214	224	*	*	*	*	*	*	198	208
11:00	96	96	144	113	111	129	129	104	*	*	*	*	*	*	120	110
Lane	9265	12136	9652	12682	9710	12846	9819	12904	0	0	0	0	0	0	9812	12643
Day	21401		22334		22556		22723		0	0	0	0	0	0	22255	
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00							08:00	08:00
Vol.	614	997	898	1096	765	1138	731	1107							702	1084
PM Peak	18:00	17:00	17:00	17:00	17:00	17:00	18:00	18:00							17:00	17:00
Vol.	768	997	893	1156	831	1025	849	1054							825	1053

Comb. Total 21401 22334 22556 22723 23428 21566 16754 42836

ADT ADT 21,537 AADT 21,537

Accurate Counts 978-664-2565

Page 1

Location : Massachusetts Avenue West
Location : of Linwood Street
City/State: Arlington, MA
Counter : 16192

01300003B
Site Code: 01300003

Start Time	08-May-09 Fri	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		21	217			16	196				
12:15		16	216			7	164				
12:30		15	224			15	194				
12:45		15	183	67	840	12	158	50	712	117	1552
01:00		12	224			6	158				
01:15		16	194			7	172				
01:30		14	186			2	162				
01:45		6	182	48	786	7	156	22	648	70	1434
02:00		5	214			4	206				
02:15		8	195			6	163				
02:30		8	210			8	164				
02:45		6	218	27	837	4	171	22	704	49	1541
03:00		2	248			0	176				
03:15		3	216			3	208				
03:30		3	214			2	168				
03:45		8	244	14	922	4	190	9	742	23	1664
04:00		5	220			3	168				
04:15		3	230			5	190				
04:30		4	229			4	197				
04:45		9	236	21	915	6	184	18	739	39	1654
05:00		8	232			20	188				
05:15		17	248			16	222				
05:30		20	250			24	222				
05:45		23	253	68	983	34	219	94	851	162	1834
06:00		31	227			43	196				
06:15		36	248			50	218				
06:30		66	238			80	230				
06:45		92	194	225	907	110	212	283	856	508	1763
07:00		98	235			122	176				
07:15		170	180			179	178				
07:30		201	190			184	123				
07:45		234	162	703	767	220	148	705	623	1408	1390
08:00		212	120			233	130				
08:15		212	142			204	120				
08:30		211	116			205	102				
08:45		230	100	865	478	186	108	828	460	1693	938
09:00		174	94			168	109				
09:15		156	94			155	94				
09:30		144	94			140	108				
09:45		184	103	658	385	154	86	617	397	1275	782
10:00		160	82			139	78				
10:15		150	84			144	60				
10:30		182	84			152	70				
10:45		172	74	664	324	136	63	571	271	1235	595
11:00		164	78			144	56				
11:15		171	55			156	53				
11:30		162	59			160	48				
11:45		186	46	683	238	166	38	626	195	1309	433
Total		4043	8382			3845	7198			7888	15580
Percent		32.5%	67.5%			34.8%	65.2%			33.6%	66.4%

Accurate Counts
978-664-2565

Page 2

Location : Massachusetts Avenue West
Location : of Linwood Street
City/State: Arlington, MA
Counter : 16192

01300003B
Site Code: 01300003

Start Time	09-May-09 Sat	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		38	244			37	222				
12:15		32	252			26	220				
12:30		31	215			20	186				
12:45		19	257	120	968	12	218	95	846	215	1814
01:00		22	218			21	200				
01:15		18	250			12	192				
01:30		24	232			12	191				
01:45		31	228	95	928	14	181	59	764	154	1692
02:00		16	218			8	178				
02:15		11	165			2	176				
02:30		12	221			2	170				
02:45		12	223	51	827	9	176	21	700	72	1527
03:00		13	205			2	160				
03:15		8	197			10	182				
03:30		10	200			5	137				
03:45		6	196	37	798	1	182	18	661	55	1459
04:00		5	186			3	169				
04:15		2	176			5	176				
04:30		6	179			5	167				
04:45		8	162	21	703	5	173	18	685	39	1388
05:00		9	204			10	188				
05:15		15	172			13	158				
05:30		12	160			10	151				
05:45		10	162	46	698	24	161	57	658	103	1356
06:00		18	176			16	156				
06:15		26	170			18	158				
06:30		33	184			32	151				
06:45		54	172	131	702	44	144	110	609	241	1311
07:00		88	152			57	166				
07:15		82	152			64	170				
07:30		92	154			76	147				
07:45		99	140	361	598	83	108	280	591	641	1189
08:00		86	140			70	102				
08:15		110	136			90	122				
08:30		120	111			148	132				
08:45		161	104	477	491	130	90	438	446	915	937
09:00		172	92			120	94				
09:15		164	109			126	96				
09:30		186	144			144	107				
09:45		218	70	740	415	186	98	576	395	1316	810
10:00		221	66			205	72				
10:15		226	86			180	92				
10:30		246	68			198	78				
10:45		256	52	949	272	183	68	766	310	1715	582
11:00		228	52			192	44				
11:15		205	50			201	66				
11:30		274	48			181	40				
11:45		267	42	974	192	207	36	781	186	1755	378
Total		4002	7592			3219	6851			7221	14443
Percent		34.5%	65.5%			32.0%	68.0%			33.3%	66.7%

Accurate Counts
978-664-2565

Page 3

Location : Massachusetts Avenue West
Location : of Linwood Street
City/State: Arlington, MA
Counter : 16192

01300003B
Site Code: 01300003

Start Time	10-May-09 Sun	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		32	169			34	175				
12:15		30	180			25	155				
12:30		34	206			30	162				
12:45		17	186	113	741	14	187	103	679	216	1420
01:00		9	181			12	152				
01:15		15	171			5	142				
01:30		28	170			13	174				
01:45		21	181	73	703	7	150	37	618	110	1321
02:00		19	206			7	167				
02:15		13	209			9	162				
02:30		12	177			4	122				
02:45		8	154	52	746	6	148	26	599	78	1345
03:00		9	168			5	154				
03:15		8	173			4	158				
03:30		14	171			6	152				
03:45		4	174	35	666	0	148	15	612	50	1298
04:00		3	168			7	155				
04:15		3	134			1	134				
04:30		3	178			0	142				
04:45		3	180	12	660	5	162	13	593	25	1253
05:00		3	152			3	144				
05:15		5	158			10	147				
05:30		8	142			9	148				
05:45		11	138	27	590	7	136	29	575	56	1165
06:00		10	148			16	137				
06:15		13	156			16	138				
06:30		20	180			17	122				
06:45		36	130	79	614	27	140	76	537	155	1151
07:00		35	148			30	117				
07:15		35	144			38	147				
07:30		52	118			42	109				
07:45		88	107	210	517	63	108	173	481	383	998
08:00		64	120			66	92				
08:15		64	84			73	99				
08:30		96	84			94	90				
08:45		106	64	330	352	107	61	340	342	670	694
09:00		119	70			116	73				
09:15		106	64			90	60				
09:30		130	66			117	60				
09:45		120	39	475	239	114	46	437	239	912	478
10:00		136	59			118	46				
10:15		159	43			131	36				
10:30		142	38			122	37				
10:45		127	25	564	165	132	24	503	143	1067	308
11:00		183	24			150	23				
11:15		176	26			140	24				
11:30		151	19			148	16				
11:45		190	19	700	88	158	10	596	73	1296	161
Total		2670	6101			2348	5491			5018	11592
Percent		30.4%	69.6%			30.0%	70.0%			30.2%	69.8%

Accurate Counts 978-664-2565

Page 4

Location : Massachusetts Avenue West
Location : of Linwood Street
City/State: Arlington, MA
Counter : 16192

01300003B
Site Code: 01300003

Start Time	11-May-09 Mon	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		14	176			9	172				
12:15		18	154			9	144				
12:30		18	157			12	122				
12:45		11	172	61	659	5	144	35	582	96	1241
01:00		9	158			7	155				
01:15		5	176			7	138				
01:30		4	146			6	137				
01:45		3	159	21	639	6	142	26	572	47	1211
02:00		7	170			6	160				
02:15		3	214			2	162				
02:30		5	188			3	166				
02:45		4	238	19	810	0	186	11	674	30	1484
03:00		6	204			1	182				
03:15		2	218			1	180				
03:30		4	202			3	168				
03:45		1	240	13	864	1	169	6	699	19	1563
04:00		2	213			3	185				
04:15		4	212			9	154				
04:30		7	224			3	180				
04:45		9	252	22	901	13	217	28	736	50	1637
05:00		10	250			12	191				
05:15		16	262			22	186				
05:30		20	251			34	232				
05:45		36	248	82	1011	36	192	104	801	186	1812
06:00		22	274			33	194				
06:15		32	248			61	188				
06:30		58	232			88	204				
06:45		90	188	202	942	116	190	298	776	500	1718
07:00		126	188			152	162				
07:15		144	188			160	153				
07:30		236	166			188	128				
07:45		182	132	688	674	212	108	712	551	1400	1225
08:00		178	148			198	128				
08:15		202	118			214	94				
08:30		192	110			221	98				
08:45		198	94	770	470	175	106	808	426	1578	896
09:00		146	95			168	110				
09:15		143	86			160	81				
09:30		128	86			151	80				
09:45		170	82	587	329	162	47	641	318	1228	647
10:00		142	55			135	69				
10:15		180	56			136	60				
10:30		148	45			130	31				
10:45		124	30	594	186	130	30	531	190	1125	376
11:00		141	32			130	32				
11:15		145	23			128	33				
11:30		171	20			160	13				
11:45		152	21	609	96	116	15	534	93	1143	189
Total		3668	7581			3734	6418			7402	13999
Percent		32.6%	67.4%			36.8%	63.2%			34.6%	65.4%

Accurate Counts 978-664-2565

Page 5

Location : Massachusetts Avenue West
Location : of Linwood Street
City/State: Arlington, MA
Counter : 16192

01300003B
Site Code: 01300003

Start Time	12-May-09 Tue	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	178			9	142				
12:15		12	184			15	174				
12:30		8	164			7	136				
12:45		10	163	46	689	2	132	33	584	79	1273
01:00		2	178			4	122				
01:15		7	166			3	133				
01:30		6	164			3	154				
01:45		5	173	20	681	4	159	14	588	34	1249
02:00		3	179			0	162				
02:15		4	186			2	146				
02:30		3	178			1	146				
02:45		5	190	15	733	2	168	5	622	20	1355
03:00		4	220			2	164				
03:15		6	226			6	170				
03:30		3	230			4	164				
03:45		2	219	15	895	5	156	17	654	32	1549
04:00		3	233			3	180				
04:15		4	208			2	170				
04:30		10	218			15	165				
04:45		8	226	25	885	8	169	28	684	53	1569
05:00		6	278			22	220				
05:15		20	278			26	226				
05:30		18	303			28	244				
05:45		21	282	65	1141	30	251	106	941	171	2082
06:00		27	248			42	250				
06:15		40	266			64	237				
06:30		60	260			80	204				
06:45		78	228	205	1002	133	185	319	876	524	1878
07:00		86	227			129	170				
07:15		146	216			168	156				
07:30		220	174			186	164				
07:45		264	164	716	781	242	140	725	630	1441	1411
08:00		244	114			249	127				
08:15		212	118			217	118				
08:30		230	92			198	103				
08:45		230	90	916	414	176	89	840	437	1756	851
09:00		170	108			198	111				
09:15		160	92			154	100				
09:30		168	53			146	80				
09:45		167	74	665	327	154	72	652	363	1317	690
10:00		128	58			130	62				
10:15		148	39			124	42				
10:30		158	50			124	36				
10:45		174	46	608	193	158	36	536	176	1144	369
11:00		146	40			154	33				
11:15		143	47			125	35				
11:30		126	37			154	25				
11:45		174	20	589	144	155	19	588	112	1177	256
Total		3885	7885			3863	6647			7748	14532
Percent		33.0%	67.0%			36.8%	63.2%			34.8%	65.2%

Accurate Counts 978-664-2565

Page 6

Location : Massachusetts Avenue West
Location : of Linwood Street
City/State: Arlington, MA
Counter : 16192

01300003B
Site Code: 01300003

Start Time	13-May-09 Wed	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		12	186			12	150				
12:15		14	191			18	137				
12:30		18	175			13	124				
12:45		11	156	55	708	8	149	51	580	106	1268
01:00		9	172			5	154				
01:15		8	169			7	150				
01:30		9	162			7	136				
01:45		10	170	36	673	8	126	27	566	63	1239
02:00		5	172			5	158				
02:15		3	166			1	155				
02:30		4	184			1	156				
02:45		9	210	21	732	1	160	8	629	29	1361
03:00		5	234			2	188				
03:15		2	207			3	182				
03:30		3	246			2	182				
03:45		3	201	13	888	3	162	10	714	23	1602
04:00		6	228			3	168				
04:15		3	216			6	160				
04:30		10	239			10	193				
04:45		12	228	31	911	13	196	32	717	63	1628
05:00		14	240			12	212				
05:15		18	250			20	200				
05:30		20	280			28	245				
05:45		24	264	76	1034	30	208	90	865	166	1899
06:00		46	252			48	224				
06:15		44	238			66	222				
06:30		58	201			82	196				
06:45		78	246	226	937	106	196	302	838	528	1775
07:00		93	208			158	178				
07:15		158	220			150	159				
07:30		244	184			214	154				
07:45		190	174	685	786	234	105	756	596	1441	1382
08:00		258	154			258	112				
08:15		255	156			221	117				
08:30		234	124			192	115				
08:45		221	90	968	524	204	88	875	432	1843	956
09:00		179	99			168	96				
09:15		168	106			164	104				
09:30		187	80			161	89				
09:45		176	50	710	335	156	68	649	357	1359	692
10:00		158	75			152	67				
10:15		148	65			142	48				
10:30		158	46			141	51				
10:45		148	42	612	228	120	48	555	214	1167	442
11:00		176	34			148	56				
11:15		182	29			150	30				
11:30		160	23			152	20				
11:45		160	21	678	107	148	15	598	121	1276	228
Total		4111	7863			3953	6609			8064	14472
Percent		34.3%	65.7%			37.4%	62.6%			35.8%	64.2%
Grand Total		22379	45404			20962	39214			43341	84618
Percent		33.0%	67.0%			34.8%	65.2%			33.9%	66.1%

ADT

ADT 21,326

AADT 21,326

Accurate Counts 978-664-2565

Location : Massachusetts Avenue West
Location : of Linwood Street
City/State: Arlington, MA
Counter : 16192

01300003B
Site Code: 01300003

Start Time	11-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average			
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB		
12:00 AM	61	35	46	33	55	51	*	*	*	*	*	*	*	*	54	40		
01:00	21	26	20	14	36	27	*	*	*	*	*	*	*	*	26	22		
02:00	19	11	15	5	21	8	*	*	*	*	*	*	*	*	18	8		
03:00	13	6	15	17	13	10	*	*	*	*	*	*	*	*	14	11		
04:00	22	28	25	28	31	32	*	*	*	*	*	*	*	*	26	29		
05:00	82	104	65	106	76	90	*	*	*	*	*	*	*	*	74	100		
06:00	202	298	205	319	226	302	*	*	*	*	*	*	*	*	211	306		
07:00	688	712	716	725	685	756	*	*	*	*	*	*	*	*	696	731		
08:00	770	805	816	840	808	875	*	*	*	*	*	*	*	*	835	841		
09:00	587	641	665	652	710	649	*	*	*	*	*	*	*	*	654	647		
10:00	594	531	608	536	612	555	*	*	*	*	*	*	*	*	605	541		
11:00	609	534	589	588	678	598	*	*	*	*	*	*	*	*	625	573		
12:00 PM	659	582	689	584	708	560	*	*	*	*	*	*	*	*	685	575		
01:00	639	572	681	568	673	566	*	*	*	*	*	*	*	*	664	569		
02:00	810	674	733	622	732	629	*	*	*	*	*	*	*	*	758	642		
03:00	864	699	895	654	888	714	*	*	*	*	*	*	*	*	882	689		
04:00	901	736	885	684	911	717	*	*	*	*	*	*	*	*	899	712		
05:00	1011	801	1141	941	1034	885	*	*	*	*	*	*	*	*	1002	830		
06:00	942	776	1002	876	937	838	*	*	*	*	*	*	*	*	960	830		
07:00	674	551	781	630	786	596	*	*	*	*	*	*	*	*	747	592		
08:00	470	426	414	437	524	432	*	*	*	*	*	*	*	*	469	432		
09:00	329	318	327	363	335	357	*	*	*	*	*	*	*	*	330	346		
10:00	186	190	193	176	228	214	*	*	*	*	*	*	*	*	202	193		
11:00	96	93	144	112	107	121	*	*	*	*	*	*	*	*	116	109		
Lane	11249	10152	11770	10510	11974	10562	0	0	0	0	0	0	0	0	11662	10407		
Day	21401		22280		22536		0		0		0		0		22069			
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00		08:00		08:00		08:00		08:00			
Vol.	770	808	916	840	968	875	968		875		875		841		885			
PM Peak	17:00	17:00	17:00	17:00	17:00	17:00	17:00		17:00		17:00		17:00		17:00			
Vol.	1011	801	1141	941	1034	865	1034		865		865		889		1062			
Comb. Total	21401		22280		22536		23468		21664		16810		16810		42649			
ADT	ADT 21,326		ADT 21,326		AADT 21,326													

Accurate Counts 978-664-2565

Location : Massachusetts Avenue West
Location : of Linwood Street
City/State: Arlington, MA
Counter : 16192

01300003B
Site Code: 01300003

Start Time	04-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	*	*	*	*	67	50	120	95	113	103	100	83
01:00	*	*	*	*	*	*	*	*	48	22	95	59	73	37	72	39
02:00	*	*	*	*	*	*	*	*	27	22	51	21	52	26	43	23
03:00	*	*	*	*	*	*	*	*	14	9	37	18	35	15	29	14
04:00	*	*	*	*	*	*	*	*	21	18	21	18	12	13	18	16
05:00	*	*	*	*	*	*	*	*	68	94	46	57	27	29	47	60
06:00	*	*	*	*	*	*	*	*	225	283	131	110	79	76	145	156
07:00	*	*	*	*	*	*	*	*	703	705	381	280	210	173	425	386
08:00	*	*	*	*	*	*	*	*	855	838	477	438	330	340	557	535
09:00	*	*	*	*	*	*	*	*	658	617	740	576	475	437	624	543
10:00	*	*	*	*	*	*	*	*	664	571	949	766	564	503	726	613
11:00	*	*	*	*	*	*	*	*	683	626	974	781	700	596	788	693
12:00 PM	*	*	*	*	*	*	*	*	840	712	903	846	741	679	850	746
01:00	*	*	*	*	*	*	*	*	786	648	928	764	703	618	806	677
02:00	*	*	*	*	*	*	*	*	837	704	827	700	746	599	803	668
03:00	*	*	*	*	*	*	*	*	922	742	798	661	686	612	802	672
04:00	*	*	*	*	*	*	*	*	915	739	703	685	660	593	759	672
05:00	*	*	*	*	*	*	*	*	983	851	698	658	590	575	757	695
06:00	*	*	*	*	*	*	*	*	907	858	702	609	614	537	741	667
07:00	*	*	*	*	*	*	*	*	767	623	598	591	517	481	627	565
08:00	*	*	*	*	*	*	*	*	478	460	491	446	352	342	440	416
09:00	*	*	*	*	*	*	*	*	385	397	415	395	239	238	346	344
10:00	*	*	*	*	*	*	*	*	324	271	272	310	165	143	254	241
11:00	*	*	*	*	*	*	*	*	238	195	192	186	88	73	173	151
Lane	0	0	0	0	0	0	0	0	12425	11043	11594	10070	8771	7839	10930	9650
Day	0	0	0	0	0	0	0	0	23468	21664	21664	16610	11:00	11:00	20580	11:00
AM Peak Vol.									8000	08:00	11:00	11:00	11:00	11:00	11:00	11:00
PM Peak Vol.									865	828	974	781	700	596	786	668
									1700	18:00	12:00	12:00	14:00	12:00	12:00	12:00
									983	856	968	846	746	679	850	748

Accurate Counts 978-664-2565

Location : Foster Street North of
City/State: Massachusetts Avenue
Arlington, MA
Counter : 15169

Site Code: 01300004
01300004

Start Time	Fri A.M.	08-May-0 P.M.	Sat A.M.	09-May-0 P.M.	Sun A.M.	10-May-0 P.M.	Daily Average A.M.	P.M.
12:00	0	11	1	19	0	10	0	13
12:15	0	10	1	18	1	3	1	10
12:30	1	16	1	14	2	19	1	16
12:45	1	8	0	17	0	10	0	12
01:00	2	12	0	14	1	9	1	12
01:15	0	10	2	10	1	12	1	11
01:30	1	5	1	17	1	10	1	11
01:45	0	8	1	10	0	7	0	8
02:00	0	10	0	18	0	11	0	13
02:15	0	15	1	9	0	16	0	13
02:30	0	14	1	11	0	8	0	14
02:45	0	25	0	10	1	13	0	16
03:00	0	20	0	9	1	12	0	14
03:15	1	10	0	11	1	12	0	11
03:30	1	20	0	8	0	9	0	12
03:45	0	10	1	15	0	9	0	11
04:00	0	13	0	11	1	12	0	12
04:15	1	19	2	17	0	10	1	15
04:30	1	24	0	11	0	8	0	14
04:45	2	23	1	9	0	7	1	13
05:00	0	12	1	15	0	8	0	12
05:15	0	15	0	8	0	5	0	9
05:30	2	25	0	9	2	5	1	13
05:45	0	11	0	6	0	12	0	10
06:00	2	16	1	14	0	13	1	14
06:15	3	18	3	6	1	6	2	10
06:30	7	6	1	8	3	10	4	8
06:45	5	17	3	4	2	3	3	8
07:00	13	13	8	8	2	10	8	10
07:15	13	13	2	7	2	15	6	12
07:30	20	6	8	10	6	7	11	9
07:45	29	14	5	5	3	9	12	9
08:00	23	6	8	8	8	8	13	7
08:15	24	6	1	1	2	3	9	3
08:30	29	4	8	6	6	4	14	5
08:45	18	5	8	5	5	1	10	4
09:00	21	6	10	3	6	5	12	5
09:15	9	6	6	4	8	4	8	5
09:30	14	8	8	8	12	7	11	8
09:45	17	4	12	7	12	6	14	6
10:00	6	9	15	3	14	6	14	6
10:15	18	3	16	3	17	4	17	3
10:30	16	2	13	5	10	1	13	3
10:45	8	1	17	4	5	3	10	3
11:00	9	2	10	5	15	0	11	2
11:15	13	5	16	4	8	0	12	3
11:30	16	5	20	1	11	1	16	2
11:45	8	3	15	0	12	1	12	1
Total	354	524	228	425	179	364	249	437
Combined Total	878		653		543		686	
Peak Vol.	07:45 105	04:00 79	10:45 63	12:00 68	09:30 52	00:30 50	09:45 55	02:15 54
P.H.F.	0.905	0.823	0.788	0.895	0.765	0.658	0.809	0.844

Accurate Counts 978-664-2565

Location : Foster Street North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 15169

Site Code: 01300004
01300004

Start Time	Mon A.M.	11-May-0 P.M.	Tue A.M.	12-May-0 P.M.	Wed A.M.	13-May-0 P.M.	Daily Average A.M.	P.M.
12:00	1	17	0	15	2	12	1	15
12:15	0	9	1	13	1	1	1	10
12:30	1	5	0	11	0	12	0	9
12:45	1	11	0	13	1	8	1	11
01:00	0	9	0	12	1	11	0	11
01:15	0	17	0	11	0	12	0	13
01:30	0	10	0	11	2	8	1	10
01:45	1	9	0	13	0	10	0	11
02:00	0	11	1	8	0	14	0	11
02:15	0	8	0	10	0	9	0	9
02:30	0	9	0	8	0	14	0	10
02:45	0	13	0	22	0	18	0	18
03:00	0	22	0	15	0	24	0	20
03:15	0	11	0	19	0	13	0	14
03:30	0	9	1	12	0	14	0	12
03:45	0	10	0	14	0	9	0	11
04:00	1	19	0	18	0	15	0	17
04:15	0	13	0	10	0	8	0	10
04:30	0	9	0	12	1	13	0	11
04:45	1	19	2	9	1	9	1	12
05:00	1	12	1	20	0	12	1	15
05:15	1	11	1	27	3	14	2	17
05:30	2	12	1	19	0	20	1	12
05:45	0	14	1	6	0	15	0	12
06:00	2	14	0	13	3	19	2	15
06:15	2	11	3	13	5	9	3	11
06:30	4	9	5	14	4	10	4	11
06:45	11	10	9	9	5	9	8	9
07:00	6	13	5	8	7	11	6	11
07:15	16	11	19	8	15	11	17	10
07:30	29	10	23	6	18	6	23	7
07:45	27	10	35	9	31	4	34	8
08:00	11	7	24	4	23	5	19	5
08:15	19	6	31	14	35	5	28	8
08:30	30	10	38	7	30	9	33	9
08:45	18	3	26	7	27	4	24	5
09:00	26	9	19	9	22	3	22	7
09:15	11	2	9	6	8	6	9	5
09:30	9	4	9	8	10	2	14	5
09:45	10	2	15	5	16	1	9	3
10:00	8	3	16	1	10	2	11	2
10:15	8	2	9	0	11	1	9	1
10:30	8	1	11	2	13	3	11	2
10:45	4	4	13	5	10	2	9	4
11:00	11	1	9	0	12	1	11	1
11:15	5	3	7	0	10	2	7	2
11:30	12	0	4	0	6	0	7	0
11:45	18	2	10	0	7	0	12	1
Total	314	436	359	476	350	428	338	448
Combined Total	750		835		778		786	
Peak Vol.	08:15 92	04:00 60	07:45 129	04:45 75	07:45 119	02:30 69	07:45 111	02:45 64
P.H.F.	0.767	0.682	0.827	0.694	0.850	0.719	0.841	0.800

Accurate Counts 978-664-2565

Location : Foster Street North of
City/State: Massachusetts Avenue
Arlington, MA
Counter : 15169

Site Code: 01300004
01300004

Start Time	Thu A.M.	14-May-0 P.M.	Fri A.M.	15-May-0 P.M.	Sat A.M.	16-May-0 P.M.	Daily Average A.M.	P.M.
12:00	0	16	*	*	*	*	0	16
12:15	0	13	*	*	*	*	0	13
12:30	1	17	*	*	*	*	1	17
12:45	2	13	*	*	*	*	2	13
01:00	1	9	*	*	*	*	1	9
01:15	0	13	*	*	*	*	0	13
01:30	2	6	*	*	*	*	2	6
01:45	0	10	*	*	*	*	0	10
02:00	0	11	*	*	*	*	0	11
02:15	0	17	*	*	*	*	0	17
02:30	0	10	*	*	*	*	0	10
02:45	0	13	*	*	*	*	0	13
03:00	1	14	*	*	*	*	1	14
03:15	0	15	*	*	*	*	0	15
03:30	0	10	*	*	*	*	0	10
03:45	1	17	*	*	*	*	1	17
04:00	1	19	*	*	*	*	1	19
04:15	0	11	*	*	*	*	0	11
04:30	0	12	*	*	*	*	0	12
04:45	1	10	*	*	*	*	1	10
05:00	0	9	*	*	*	*	0	9
05:15	1	16	*	*	*	*	1	16
05:30	1	12	*	*	*	*	1	12
05:45	1	9	*	*	*	*	1	9
06:00	1	20	*	*	*	*	1	20
06:15	5	17	*	*	*	*	5	17
06:30	2	14	*	*	*	*	2	14
06:45	7	20	*	*	*	*	7	20
07:00	7	16	*	*	*	*	7	16
07:15	9	11	*	*	*	*	9	11
07:30	26	11	*	*	*	*	26	11
07:45	34	6	*	*	*	*	34	6
08:00	26	12	*	*	*	*	26	12
08:15	28	6	*	*	*	*	28	6
08:30	32	4	*	*	*	*	32	4
08:45	24	4	*	*	*	*	24	4
09:00	21	5	*	*	*	*	21	5
09:15	9	2	*	*	*	*	9	2
09:30	11	3	*	*	*	*	11	3
09:45	8	5	*	*	*	*	8	5
10:00	13	5	*	*	*	*	13	5
10:15	6	5	*	*	*	*	6	5
10:30	10	0	*	*	*	*	10	0
10:45	8	3	*	*	*	*	8	3
11:00	10	2	*	*	*	*	10	2
11:15	12	1	*	*	*	*	12	1
11:30	5	1	*	*	*	*	5	1
11:45	6	1	*	*	*	*	6	1
Total	333	476	0	0	0	0	333	476
Combined Total	809		0		0		809	
Peak Vol.	07:45 120	06:00 71					07:45 120	06:00 71
P.H.F.	0.882	0.888					0.882	0.888
ADT	ADT 749	ADT 749					ADT 749	ADT 749

Accurate Counts
978-664-2565

Page 1

Location : Foster Street North of
 Location : Massachusetts Avenue
 City/State: Arlington, MA
 Counter : 15169

Site Code: 01300004
 01300004

Start Time	Mon 04-May-09	Tue 05-May-09	Wed 06-May-09	Thu 07-May-09	Fri 08-May-09	Average Day	Sat 09-May-09	Sun 10-May-09	Week Average
12:00 AM	*	*	*	*	2	2	3	3	3
01:00	*	*	*	*	3	3	4	3	3
02:00	*	*	*	*	0	0	2	1	1
03:00	*	*	*	*	2	2	1	2	2
04:00	*	*	*	*	4	4	3	1	3
05:00	*	*	*	*	2	2	1	2	2
06:00	*	*	*	*	17	17	8	6	10
07:00	*	*	*	*	75	75	23	13	37
08:00	*	*	*	*	94	94	25	21	47
09:00	*	*	*	*	61	61	36	38	45
10:00	*	*	*	*	48	48	61	43	51
11:00	*	*	*	*	46	46	61	46	51
12:00 PM	*	*	*	*	45	45	68	42	52
01:00	*	*	*	*	35	35	51	38	41
02:00	*	*	*	*	64	64	48	48	53
03:00	*	*	*	*	60	60	43	42	48
04:00	*	*	*	*	79	79	48	37	55
05:00	*	*	*	*	63	63	38	30	44
06:00	*	*	*	*	57	57	32	32	40
07:00	*	*	*	*	46	46	30	41	39
08:00	*	*	*	*	21	21	20	16	19
09:00	*	*	*	*	24	24	22	22	23
10:00	*	*	*	*	15	15	15	14	15
11:00	*	*	*	*	15	15	10	2	9
Day Total	0	0	0	0	878	878	653	543	693
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	126.7%	126.7%	94.2%	78.4%	
AM Peak					08:00	08:00	10:00	11:00	10:00
Vol.					94	94	61	46	51
PM Peak					16:00	16:00	12:00	14:00	16:00
Vol.					79	79	68	48	55

Accurate Counts 978-664-2565

Page 2

Location : Foster Street North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 15169

Site Code: 01300004
01300004

Start Time	Mon 11-May-09	Tue 12-May-09	Wed 13-May-09	Thu 14-May-09	Fri 15-May-09	Average Day	Sat 16-May-09	Sun 17-May-09	Week Average
12:00 AM	3	1	4	3	*	3	*	*	3
01:00	1	0	3	3	*	2	*	*	2
02:00	0	1	0	0	*	0	*	*	0
03:00	0	1	0	2	*	1	*	*	1
04:00	2	2	2	2	*	2	*	*	2
05:00	4	4	3	3	*	4	*	*	4
06:00	19	17	17	15	*	17	*	*	17
07:00	78	82	71	76	*	77	*	*	77
08:00	78	120	115	110	*	106	*	*	106
09:00	55	52	56	49	*	53	*	*	53
10:00	28	49	44	37	*	40	*	*	40
11:00	46	30	35	33	*	36	*	*	36
12:00 PM	42	52	41	59	*	48	*	*	48
01:00	45	47	41	38	*	43	*	*	43
02:00	41	48	55	51	*	49	*	*	49
03:00	52	60	60	56	*	57	*	*	57
04:00	60	49	45	52	*	52	*	*	52
05:00	49	72	61	46	*	57	*	*	57
06:00	44	49	47	71	*	53	*	*	53
07:00	44	31	32	44	*	38	*	*	38
08:00	26	32	23	26	*	27	*	*	27
09:00	17	28	12	15	*	18	*	*	18
10:00	10	8	8	13	*	10	*	*	10
11:00	6	0	3	5	*	4	*	*	4
Day Total	750	835	778	809	0	797	0	0	797
% Avg. WkDay	94.1%	104.8%	97.6%	101.5%	0.0%	79.3			
% Avg. Week	94.1%	104.8%	97.6%	101.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak	07:00	08:00	08:00	08:00		08:00			08:00
Vol.	78	120	115	110		106			106
PM Peak	16:00	17:00	17:00	18:00		15:00			15:00
Vol.	60	72	61	71		57			57
Grand Total	750	835	778	809	878	1675	653	543	1490

ADT

ADT 749

AADT 749

Accurate Counts

978-664-2565

Location : Linwood Street South of
 Location : Massachusetts Avenue
 City/State: Arlington, MA
 Counter : 16427

Site Code: 01300005
 01300005

Start Time	08-May-09 Fri	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	12			0	2				
12:15		1	7			0	6				
12:30		0	13			0	18				
12:45		1	7	4	39	0	8	0	34	4	73
01:00		0	10			0	9				
01:15		1	10			0	8				
01:30		0	9			0	6				
01:45		0	6	1	35	0	7	0	30	1	65
02:00		0	6			0	9				
02:15		0	6			0	7				
02:30		1	3			0	8				
02:45		1	12	2	27	0	9	0	33	2	60
03:00		0	8			0	3				
03:15		1	8			0	15				
03:30		0	13			0	12				
03:45		1	8	2	37	0	8	0	38	2	75
04:00		1	10			1	4				
04:15		0	4			0	7				
04:30		0	11			0	11				
04:45		0	16	1	41	0	20	1	42	2	83
05:00		1	13			0	9				
05:15		0	11			1	11				
05:30		0	13			3	8				
05:45		0	18	1	55	0	10	4	38	5	93
06:00		0	16			4	9				
06:15		0	18			1	14				
06:30		0	14			1	7				
06:45		3	16	3	64	5	8	11	38	14	102
07:00		3	6			2	7				
07:15		6	14			6	10				
07:30		4	12			6	10				
07:45		12	7	25	39	7	20	21	47	46	86
08:00		7	6			4	8				
08:15		14	4			13	2				
08:30		10	4			12	3				
08:45		6	5	37	19	11	6	40	19	77	38
09:00		7	1			8	3				
09:15		11	2			17	2				
09:30		5	3			9	2				
09:45		7	3	30	9	7	0	41	7	71	18
10:00		5	4			5	2				
10:15		9	4			5	4				
10:30		4	5			3	0				
10:45		4	0	24	13	4	2	17	8	41	21
11:00		4	2			5	1				
11:15		6	5			15	2				
11:30		12	7			4	2				
11:45		6	1			2	0				
Total		158	393	28	15	161	339	26	5	319	732
Percent		28.7%	71.3%			32.2%	67.8%			30.4%	69.6%

Accurate Counts **978-664-2565**

Location : Linwood Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16427

Site Code: 01300005
01300005

Start Time	09-May-09 Sat	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	9			0	8				
12:15		0	13			0	9				
12:30		0	10			0	9				
12:45		0	12	1	44	0	4	0	30	1	74
01:00		1	12			0	5				
01:15		3	12			3	8				
01:30		0	10			1	5				
01:45		0	3	4	37	0	8	4	26	8	63
02:00		0	10			0	7				
02:15		1	8			0	6				
02:30		0	6			0	3				
02:45		0	5	1	29	0	4	0	20	1	49
03:00		1	5			0	7				
03:15		0	8			0	4				
03:30		0	8			0	9				
03:45		0	19	1	40	0	9	0	29	1	66
04:00		0	16			1	8				
04:15		0	10			0	9				
04:30		0	8			1	10				
04:45		0	6	0	40	0	8	2	35	2	75
05:00		0	15			0	8				
05:15		0	15			0	6				
05:30		1	12			1	6				
05:45		0	9	1	51	0	9	1	29	2	80
06:00		0	7			0	4				
06:15		1	11			1	4				
06:30		1	8			1	2				
06:45		2	12	4	38	2	14	4	24	8	62
07:00		1	10			2	19				
07:15		1	3			1	1				
07:30		1	6			3	3				
07:45		1	9	4	28	2	6	8	29	12	57
08:00		4	3			5	1				
08:15		3	5			2	4				
08:30		6	3			8	1				
08:45		9	9	22	20	15	3	22	9	44	29
09:00		16	2			7	1				
09:15		9	1			8	2				
09:30		7	3			8	2				
09:45		16	2	48	8	9	3	39	8	87	16
10:00		8	3			8	3				
10:15		16	4			12	2				
10:30		8	1			4	1				
10:45		10	2	42	10	11	0	35	6	77	16
11:00		11	2			13	1				
11:15		10	1			10	2				
11:30		5	5			15	0				
11:45		4	0	30	8	13	2	51	5	81	13
Total		158	353			166	250			324	603
Percent		30.9%	69.1%			39.9%	60.1%			35.0%	65.0%

Accurate Counts

Location : Linwood Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16427

Site Code: 01300005
01300005

Start Time	10-May-09 Sun	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	11			0	9				
12:15		2	12			2	4				
12:30		2	6			0	7				
12:45		0	5	4	34	0	13	2	33	6	67
01:00		0	10			0	4				
01:15		0	7			0	6				
01:30		1	4			0	3				
01:45		0	8	1	29	0	8	0	21	1	50
02:00		0	8			0	8				
02:15		0	7			0	10				
02:30		0	11			1	6				
02:45		0	14	0	40	0	3	1	27	1	67
03:00		0	11			0	7				
03:15		0	16			0	12				
03:30		1	8			0	1				
03:45		0	7	1	42	0	7	0	27	1	69
04:00		0	20			0	16				
04:15		1	17			2	10				
04:30		0	13			0	7				
04:45		0	18	1	68	1	8	3	41	4	109
05:00		0	14			0	11				
05:15		1	12			0	8				
05:30		0	7			0	8				
05:45		0	12	1	45	2	6	2	33	3	78
06:00		1	8			0	4				
06:15		0	9			0	11				
06:30		0	6	1	31	0	19	0	41	1	72
06:45		0	8			0	2				
07:00		0	12			0	4				
07:15		1	7			1	5				
07:30		3	6			2	7				
07:45		2	6	5	33	6	5	5	18	11	51
08:00		2	6			6	3				
08:15		4	0			6	3				
08:30		5	5			3	4				
08:45		15	3	26	14	9	2	24	14	50	28
09:00		7	1			3	0				
09:15		6	2			2	0				
09:30		6	4			8	0				
09:45		3	9	22	16	4	5	18	4	40	20
10:00		5	2			6	1				
10:15		5	2			6	1				
10:30		6	6			7	0				
10:45		9	1	25	11	6	1	23	7	48	18
11:00		8	2			11	2				
11:15		4	1			5	0				
11:30		6	3			2	0				
11:45		5	0			5	0				
Total		111	369	23	6	101	268	23	2	212	637
Percent		23.1%	76.9%			27.4%	72.6%			25.0%	75.0%

Accurate Counts
978-664-2565

Location : Linwood Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16427

Site Code: 01300005
01300005

Start Time	11-May-09 Mon	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	8			1	5				
12:15		1	9			3	8				
12:30		1	12			2	6				
12:45		1	3	7	32	1	6	7	25	14	57
01:00		0	9			2	3				
01:15		0	11			0	8				
01:30		0	8			0	8				
01:45		0	7	0	35	0	11	2	30	2	65
02:00		0	7			0	6				
02:15		0	5			0	2				
02:30		1	5			0	11				
02:45		0	15	1	32	0	7	0	26	1	58
03:00		0	7			0	5				
03:15		0	10			0	8				
03:30		0	7			0	6				
03:45		0	5	0	29	0	13	0	32	0	61
04:00		0	10			0	8				
04:15		0	14			0	8				
04:30		0	13			0	7				
04:45		0	16	0	53	0	12	0	35	0	88
05:00		0	19			0	12				
05:15		0	14			0	8				
05:30		0	23			1	9				
05:45		1	18	1	74	3	11	4	40	5	114
06:00		12	13			7	13				
06:15		1	18			3	7				
06:30		1	16			2	6				
06:45		3	11	17	58	5	10	17	36	34	94
07:00		1	9			6	9				
07:15		9	11			4	8				
07:30		7	7			8	12				
07:45		10	5	27	32	6	16	24	45	51	77
08:00		17	3			2	9				
08:15		14	10			12	6				
08:30		10	2			5	0				
08:45		4	1	45	16	13	0	32	15	77	31
09:00		7	6			7	1				
09:15		5	4			7	3				
09:30		6	2			5	2				
09:45		8	8	26	20	2	1	21	7	47	27
10:00		3	4			8	3				
10:15		9	2			5	3				
10:30		4	3			3	0				
10:45		3	4	19	13	3	0	18	6	37	19
11:00		2	2			3	0				
11:15		4	1			5	1				
11:30		4	1			3	0				
11:45		7	2	17	6	6	1	17	2	34	8
Total		160	400			142	299			302	699
Percent		28.6%	71.4%			32.2%	67.8%			30.2%	69.8%

Accurate Counts 978-664-2565

Location : Linwood Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16427

Site Code: 01300005
01300005

Start Time	12-May-09 Tue	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	6			0	7				
12:15		1	12			1	6				
12:30		0	7			0	6				
12:45		0	16	1	41	0	10	1	29	2	70
01:00		0	3			0	6				
01:15		0	6			0	4				
01:30		0	8			0	5				
01:45		0	8	0	25	0	4	0	19	0	44
02:00		0	14			1	3				
02:15		0	5			0	6				
02:30		0	3			0	10				
02:45		0	5			0	3				
03:00		1	12	0	27	0	7	1	22	1	49
03:15		0	7			0	6				
03:30		0	17			0	8				
03:45		0	7	1	43	0	17	0	38	1	81
04:00		0	4			0	13				
04:15		0	14			0	13				
04:30		0	8			0	9				
04:45		0	18	0	44	0	11	0	46	0	90
05:00		0	21			0	14				
05:15		0	20			1	13				
05:30		0	12			0	12				
05:45		0	20	0	73	2	8	3	47	3	120
06:00		0	23			0	11				
06:15		0	16			1	4				
06:30		0	17			6	6				
06:45		2	17	2	73	2	11	9	32	11	105
07:00		1	16			3	13				
07:15		4	10			10	9				
07:30		4	11			10	15				
07:45		7	11	16	48	9	19	26	56	42	104
08:00		19	4			10	2				
08:15		23	7			11	6				
08:30		15	5			10	3				
08:45		14	2	71	18	12	6	43	17	114	35
09:00		6	7			13	2				
09:15		10	4			4	3				
09:30		3	4			6	0				
09:45		13	4			12	3				
10:00		1	8	32	16	3	0	35	8	67	24
10:15		4	3			6	0				
10:30		3	0			3	0				
10:45		4	4	12	15	3	0	15	2	27	17
11:00		4	2			8	2				
11:15		4	0			3	1				
11:30		5	2			2	0				
11:45		6	0	19	4	5	2	18	4	37	8
Total		154	427			151	320			305	747
Percent		26.5%	73.5%			32.1%	67.9%			29.0%	71.0%

Accurate Counts 978-664-2565

Location : Linwood Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16427

Site Code: 01300005
01300005

Start Time	13-May-09 Wed	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	3			0	2				
12:15		0	13			0	5				
12:30		0	20			0	2				
12:45		0	12	1	48	0	10	0	19	1	67
01:00		0	4			0	6				
01:15		2	12			1	4				
01:30		0	8			0	9				
01:45		0	6	2	30	0	4	1	23	3	53
02:00		0	3			0	6				
02:15		0	6			0	2				
02:30		0	7			0	6				
02:45		1	7	1	23	0	5	0	19	1	42
03:00		0	4			0	6				
03:15		0	10			0	11				
03:30		0	14			0	11				
03:45		0	18	0	46	0	8	0	36	0	82
04:00		0	11			0	8				
04:15		0	13			0	5				
04:30		0	11			0	10				
04:45		0	16	0	51	1	13	1	36	1	87
05:00		1	17			2	11				
05:15		0	13			0	10				
05:30		0	14			1	9				
05:45		0	20	1	64	2	7	5	37	6	101
06:00		0	6			3	14				
06:15		0	12			1	9				
06:30		1	12			2	12				
06:45		0	17	1	47	3	6	9	41	10	88
07:00		6	15			4	10				
07:15		3	13			6	17				
07:30		5	7			8	18				
07:45		12	7	26	50	7	7	25	52	51	102
08:00		13	8			9	5				
08:15		17	4			13	4				
08:30		21	5			18	3				
08:45		14	3	65	20	15	4	47	16	112	36
09:00		7	5			11	2				
09:15		7	3			7	3				
09:30		5	6			9	3				
09:45		4	5	23	19	7	0	42	10	65	29
10:00		11	1			3	0				
10:15		6	2			9	0				
10:30		3	4			7	0				
10:45		3	3	25	10	3	0	26	0	51	10
11:00		3	3			5	2				
11:15		8	3			4	0				
11:30		3	3			8	2				
11:45		12	0	26	9			20	6	46	15
Total		171	417			176	295			347	712
Percent		29.1%	70.9%			37.4%	62.6%			32.8%	67.2%

Accurate Counts 978-664-2565

Location : Linwood Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16427

Site Code: 01300005
01300005

Start Time	14-May-09 Thu	SB Morning	SB Afternoon	Hour Totals		NB Morning	NB Afternoon	Hour Totals		Combined Totals	
				Morning	Afternoon			Morning	Afternoon	Morning	Afternoon
12:00		0	5			0	5				
12:15		0	7			2	1				
12:30		0	9			0	7				
12:45		1	11	1	32	0	8	2	21	3	53
01:00		0	3			0	4				
01:15		0	3			0	2				
01:30		0	5			0	7				
01:45		2	5	2	16	1	7	1	20	3	36
02:00		0	5			0	3				
02:15		0	5			0	4				
02:30		0	2			0	4				
02:45		0	5			0	1	0	12	0	29
03:00		0	5	0	17	0	8				
03:15		1	4			0	5				
03:30		0	7			0	3				
03:45		0	8	1	24	0	9	0	25	1	49
04:00		0	8			0	6				
04:15		0	14			0	9				
04:30		0	21			0	13				
04:45		0	8	0	51	0	6	0	34	0	86
05:00		1	14			0	2				
05:15		0	9			1	12				
05:30		0	17			0	9				
05:45		0	16	1	56	5	8	6	31	7	87
06:00		0	20			0	16				
06:15		0	6			3	3				
06:30		0	13			3	10				
06:45		0	18	0	57	0	9	6	38	6	96
07:00		4	13			2	14				
07:15		2	9			4	4				
07:30		6	9			3	4				
07:45		6	14	18	45	7	22	16	43	34	86
08:00		14	14			4	6				
08:15		20	4			16	2				
08:30		17	8			13	2				
08:45		8	0			8	1	41	11	100	37
09:00		9	3		26	9	2				
09:15		8	4			8	0				
09:30		7	3			4	0				
09:45		9	2			6	2	27	4	60	16
10:00		5	4	33	12	7	0				
10:15		2	1			1	0				
10:30		1	1			4	0				
10:45		0	2	8	8	3	3	15	3	23	11
11:00		2	1			5	0				
11:15		4	1			5	0				
11:30		5	0			2	1				
11:45		6	0			6	0	18	1	36	3
Total		140	346			132	243			272	589
Percent		28.8%	71.2%			36.2%	64.8%			31.6%	68.4%
Grand Total		1052	2705			1029	2014			2081	4719
Percent		28.0%	72.0%			33.8%	66.2%			30.6%	69.4%
ADT		ADT 971	AADT 971								

Accurate Counts **978-664-2565**

Page 1

Location : Linwood Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16427

Site Code: 01300005
01300005

Start Time	04-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	*	*	*	*	*	*	*	*	4	0	1	0	4	2	3	1
01:00	*	*	*	*	*	*	*	*	1	0	4	4	1	0	2	1
02:00	*	*	*	*	*	*	*	*	2	0	1	0	0	1	1	0
03:00	*	*	*	*	*	*	*	*	2	0	1	0	1	0	1	0
04:00	*	*	*	*	*	*	*	*	1	1	0	2	1	3	1	2
05:00	*	*	*	*	*	*	*	*	1	4	1	1	1	2	1	2
06:00	*	*	*	*	*	*	*	*	3	11	4	4	1	0	3	5
07:00	*	*	*	*	*	*	*	*	25	21	4	8	6	5	12	11
08:00	*	*	*	*	*	*	*	*	37	40	22	22	26	24	28	29
09:00	*	*	*	*	*	*	*	*	30	41	48	39	22	18	33	33
10:00	*	*	*	*	*	*	*	*	24	17	42	35	25	23	30	25
11:00	*	*	*	*	*	*	*	*	28	26	30	51	23	23	27	33
12:00 PM	*	*	*	*	*	*	*	*	39	34	44	30	34	33	39	32
01:00	*	*	*	*	*	*	*	*	35	30	37	28	29	21	34	26
02:00	*	*	*	*	*	*	*	*	27	33	29	20	40	27	32	27
03:00	*	*	*	*	*	*	*	*	37	38	40	29	42	27	40	31
04:00	*	*	*	*	*	*	*	*	41	42	40	35	68	41	50	39
05:00	*	*	*	*	*	*	*	*	55	38	51	29	45	33	50	33
06:00	*	*	*	*	*	*	*	*	64	38	38	24	31	41	44	34
07:00	*	*	*	*	*	*	*	*	39	47	28	29	33	18	33	31
08:00	*	*	*	*	*	*	*	*	19	19	20	9	14	14	18	14
09:00	*	*	*	*	*	*	*	*	9	7	8	8	16	4	11	6
10:00	*	*	*	*	*	*	*	*	13	8	10	6	11	7	11	7
11:00	*	*	*	*	*	*	*	*	15	5	8	5	6	2	10	4
Lane	0	0	0	0	0	0	0	0	551	500	511	416	480	369	514	426
Day	0		0		0		0		1051		927		849		940	
AM Peak									08:00	09:00	09:00	11:00	08:00	08:00	09:00	09:00
Vol.									37	41	48	51	26	24	33	33
PM Peak									18:00	19:00	17:00	16:00	16:00	16:00	16:00	16:00
Vol.									64	47	51	35	68	41	50	39

Accurate Counts 978-664-2565

Page 2

Location : Linwood Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16427

Site Code: 01300005
01300005

Start Time	11-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	7	7	1	1	1	0	1	2	*	*	*	*	*	*	2	2
01:00	0	2	0	0	2	1	2	1	*	*	*	*	*	*	1	1
02:00	1	0	0	1	1	0	0	0	*	*	*	*	*	*	0	0
03:00	0	0	1	0	0	0	1	0	*	*	*	*	*	*	0	0
04:00	0	0	0	0	0	1	0	0	*	*	*	*	*	*	0	0
05:00	1	4	0	3	1	5	1	6	*	*	*	*	*	*	1	4
06:00	17	17	2	9	1	9	0	6	*	*	*	*	*	*	5	10
07:00	27	24	16	26	26	25	18	16	*	*	*	*	*	*	22	23
08:00	45	32	71	43	65	47	59	41	*	*	*	*	*	*	60	41
09:00	26	21	32	35	23	42	33	27	*	*	*	*	*	*	28	31
10:00	19	18	12	15	25	26	8	15	*	*	*	*	*	*	16	18
11:00	17	17	19	18	26	20	17	18	*	*	*	*	*	*	20	18
12:00 PM	32	25	41	29	48	19	32	21	*	*	*	*	*	*	38	24
01:00	35	30	25	19	30	23	18	20	*	*	*	*	*	*	26	23
02:00	32	26	27	22	23	19	17	12	*	*	*	*	*	*	25	20
03:00	29	32	43	38	46	36	24	25	*	*	*	*	*	*	36	33
04:00	53	35	44	46	51	36	51	34	*	*	*	*	*	*	50	38
05:00	74	40	73	47	64	37	56	31	*	*	*	*	*	*	67	39
06:00	58	36	73	32	47	41	57	38	*	*	*	*	*	*	59	37
07:00	32	45	48	56	50	52	45	43	*	*	*	*	*	*	44	49
08:00	16	15	18	17	20	16	26	11	*	*	*	*	*	*	20	15
09:00	20	7	16	8	19	10	12	4	*	*	*	*	*	*	17	7
10:00	13	6	15	2	10	0	8	3	*	*	*	*	*	*	12	3
11:00	6	2	4	4	9	6	2	1	*	*	*	*	*	*	5	3
Lane	560	441	581	471	588	471	486	375	0	0	0	0	0	0	554	439
Day	1001		1052		1059		861		0		0		0		993	
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00							08:00	08:00
Vol.	45	32	71	43	65	47	59	41							60	41
PM Peak	17:00	19:00	17:00	19:00	17:00	19:00	18:00	19:00							17:00	19:00
Vol.	74	45	73	56	64	52	57	43							67	49

Comb. Total	1001	1052	1059	861	1051	927	849	1933
ADT	ADT 971	AADT 971						

Accurate Counts 978-664-2565

Location : Bates Road North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16430

Site Code: 01300006
01300006

Start Time	08-May-09 Fri	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	16			5	40				
12:15		2	21			2	33				
12:30		0	23			2	47				
12:45		3	28	6	88	0	38	9	158	15	246
01:00		1	26			2	38				
01:15		0	31			1	31				
01:30		1	27			3	32				
01:45		2	27	4	111	3	34	9	135	13	246
02:00		2	27			0	33				
02:15		0	25			0	36				
02:30		0	25			1	45				
02:45		0	26	2	103	2	45	3	159	5	262
03:00		2	20			3	50				
03:15		0	39			0	54				
03:30		2	33			1	57				
03:45		1	51	5	143	1	53	5	214	10	357
04:00		0	51			1	43				
04:15		2	64			1	46				
04:30		1	46			3	57				
04:45		1	49	4	210	3	45	8	191	12	401
05:00		1	57			3	40				
05:15		3	48			4	55				
05:30		3	48			4	40				
05:45		1	30	8	183	8	45	19	180	27	363
06:00		4	35			12	52				
06:15		3	42			22	37				
06:30		7	25			42	48				
06:45		13	36	27	138	43	41	119	178	146	316
07:00		12	33			52	34				
07:15		17	31			86	44				
07:30		22	18			82	39				
07:45		34	38	85	120	90	36	310	153	395	273
08:00		29	18			75	32				
08:15		25	20			85	32				
08:30		25	22			94	20				
08:45		23	13	102	73	74	15	328	99	430	172
09:00		21	17			78	22				
09:15		14	13			73	22				
09:30		20	20			51	15				
09:45		19	10	74	60	36	8	238	61	312	121
10:00		21	9			31	13				
10:15		20	9			45	11				
10:30		17	9			38	10				
10:45		17	10	75	37	38	12	152	46	227	83
11:00		16	8			37	17				
11:15		22	8			37	10				
11:30		18	8			45	4				
11:45		14	12	70	36	31	16	150	47	220	83
Total		462	1302			1350	1621			1812	2923
Percent		26.2%	73.8%			45.4%	54.6%			38.3%	61.7%

Accurate Counts
978-664-2565

Location : Bates Road North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16430

Site Code: 01300006
01300006

Start Time	09-May-09 Sat	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	21			10	55				
12:15		5	38	2	49	2	49				
12:30		3	30	6	49	6	49				
12:45		5	34	4	54	4	54	22	207	43	330
01:00		3	27	1	60	1	60				
01:15		3	24	4	48	4	48				
01:30		1	32	2	40	2	40				
01:45		0	30	3	44	3	44	10	192	17	305
02:00		1	20	0	48	0	48				
02:15		1	26	6	45	6	45				
02:30		5	22	2	33	2	33				
02:45		1	31	2	30	2	30	10	156	18	255
03:00		0	22	2	47	2	47				
03:15		1	30	1	35	1	35				
03:30		0	29	1	50	1	50				
03:45		1	28	4	35	4	35	8	167	10	276
04:00		0	24	1	41	1	41				
04:15		3	21	0	36	0	36				
04:30		0	19	0	33	0	33				
04:45		1	31	1	35	1	35	2	145	6	240
05:00		1	30	4	38	4	38				
05:15		1	18	3	34	3	34				
05:30		0	26	1	36	1	36				
05:45		1	22	4	39	4	39	12	147	15	243
06:00		1	19	7	46	7	46				
06:15		1	22	9	37	9	37				
06:30		1	21	7	36	7	36				
06:45		1	27	15	34	15	34	38	153	42	242
07:00		5	20	17	29	17	29				
07:15		9	12	19	34	19	34				
07:30		11	19	28	28	28	28				
07:45		11	20	21	37	21	37	85	128	121	199
08:00		8	12	23	24	23	24				
08:15		12	14	21	24	21	24				
08:30		11	22	35	23	35	23				
08:45		18	23	30	34	30	34	109	105	158	176
09:00		13	8	39	30	39	30				
09:15		16	21	40	12	40	12				
09:30		18	12	30	21	30	21				
09:45		22	15	46	26	46	26	155	89	224	145
10:00		20	12	45	7	45	7				
10:15		31	17	44	14	44	14				
10:30		18	17	43	18	43	18				
10:45		33	2	52	16	52	16	184	55	286	103
11:00		27	12	33	11	33	11				
11:15		28	12	51	9	51	9				
11:30		23	4	39	14	39	14				
11:45		26	4	50	13	50	13	173	47	277	79
Total		409	1002	808	1591	808	1591			1217	2593
Percent		29.0%	71.0%	33.7%	66.3%	33.7%	66.3%			31.9%	68.1%

Accurate Counts 978-664-2565

Location : Bates Road North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16430

Site Code: 01300006
01300006

Start Time	10-May-09 Sun	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	13			6	38				
12:15		4	31			7	39				
12:30		5	19			4	36				
12:45		7	19			5	37	22	150	41	232
01:00		7	32			1	43				
01:15		1	29			3	36				
01:30		6	21			1	33				
01:45		0	18	14	100	7	34	12	146	26	246
02:00		4	22			3	43				
02:15		1	24			1	47				
02:30		1	17			3	41				
02:45		1	20			3	26				
03:00		4	16	7	83	0	40	10	157	17	240
03:15		0	26			1	47				
03:30		0	24			1	37				
03:45		0	23	4	89	2	31	4	155	8	244
04:00		1	22			0	39				
04:15		2	36			1	37				
04:30		0	23			1	30				
04:45		0	20	3	101	2	29	4	135	7	236
05:00		1	22			1	30				
05:15		4	24			1	31				
05:30		1	20			5	30				
05:45		0	13	6	79	2	38	9	129	15	208
06:00		0	18			2	25				
06:15		2	17			4	38				
06:30		4	20			7	30				
06:45		5	14	11	69	9	27	22	120	33	189
07:00		5	24			8	27				
07:15		2	21			11	39				
07:30		5	29			13	20				
07:45		5	20	17	94	10	23	39	119	56	213
08:00		6	11			16	22				
08:15		7	19			17	17				
08:30		11	9			18	22				
08:45		14	13	38	52	23	12	61	84	99	136
09:00		14	15			21	13				
09:15		9	6			27	8				
09:30		14	13			25	14				
09:45		18	12	51	46	25	9	96	47	147	93
10:00		12	10			37	10				
10:15		16	7			26	11				
10:30		16	7			31	6				
10:45		20	5	63	31	31	3	119	36	182	67
11:00		22	3			33	7				
11:15		22	2			26	3				
11:30		16	8	80	18	39	7	129	20	209	38
11:45											
Total		313	844			527	1298			840	2142
Percent		27.1%	72.9%			28.9%	71.1%			28.2%	71.8%

Accurate Counts

Location : Bates Road North of
 Location : Massachusetts Avenue
 City/State: Arlington, MA
 Counter : 16430

Site Code: 01300006
 01300006

Start Time	11-May-09 Mon	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	19			4	22				
12:15		2	23		4	41					
12:30		4	16		5	35					
12:45		0	17	9	75	1	35	14	133	23	208
01:00		2	18		0	3	33				
01:15		2	24		1	28					
01:30		3	23		1	33					
01:45		2	18	9	83	1	38	3	132	12	215
02:00		0	19		0	38					
02:15		0	26		1	33					
02:30		0	22		2	46					
02:45		0	23	0	90	0	36	3	153	3	243
03:00		0	24		4	62					
03:15		0	40		0	57					
03:30		0	34		1	47					
03:45		1	60	1	158	1	49	6	215	7	313
04:00		0	55		1	46					
04:15		2	47		2	39					
04:30		1	50		2	44					
04:45		1	58	4	210	4	27	9	156	13	366
05:00		1	61		3	36					
05:15		0	50		5	46					
05:30		2	47		7	43					
05:45		2	47	5	205	5	46	20	171	25	316
06:00		0	49		10	43					
06:15		5	43		13	58					
06:30		6	47		37	51					
06:45		10	54	21	193	34	38	94	190	115	383
07:00		16	25		62	29					
07:15		10	31		81	24					
07:30		22	19		81	24					
07:45		32	22	80	97	80	31	285	127	365	224
08:00		26	15		78	24					
08:15		28	24		77	24					
08:30		25	15		76	20					
08:45		27	13	106	67	90	20	321	88	427	155
09:00		20	12		82	13					
09:15		23	12		58	18					
09:30		21	10		43	30					
09:45		15	8	79	42	34	14	217	75	296	117
10:00		28	7		39	9					
10:15		14	14		32	12					
10:30		20	9		45	10					
10:45		16	5	78	35	40	8	156	39	234	74
11:00		16	6		22	4					
11:15		14	6		30	5					
11:30		25	6		31	7					
11:45		12	1	67	19	32	4	115	20	182	39
Total		459	1274		1243	1499				1702	2773
Percent		26.5%	73.5%		45.3%	54.7%				38.0%	62.0%

Accurate Counts

Location : Bates Road North of
 Location : Massachusetts Avenue
 City/State: Arlington, MA
 Counter : 16430

Site Code: 01300006
 01300006

Start Time	12-May-09 Tue	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	18			2	24				
12:15		3	12			1	37				
12:30		2	20			3	34				
12:45		1	18	8	68	3	26	9	121	17	189
01:00		2	20			0	33				
01:15		1	23			4	25				
01:30		0	17			1	29				
01:45		0	22	3	82	0	33	5	120	8	202
02:00		0	21			1	34				
02:15		0	29			0	35				
02:30		0	29			0	42				
02:45		0	28	0	107	1	36	2	147	2	254
03:00		1	23			2	49				
03:15		0	43			1	55				
03:30		1	27			2	45				
03:45		1	50	3	143	1	44	6	193	9	336
04:00		0	49			0	39				
04:15		1	48			0	48				
04:30		0	43			1	34				
04:45		0	55	1	195	5	43	6	164	7	359
05:00		1	62			2	38				
05:15		2	41			3	55				
05:30		2	36			7	41				
05:45		7	53	12	192	7	56	19	190	31	382
06:00		6	42			7	42				
06:15		5	54			17	53				
06:30		5	46			19	41				
06:45		10	34	27	176	53	43	96	179	123	355
07:00		12	34			49	37				
07:15		18	38			63	47				
07:30		18	27			77	24				
07:45		26	22	74	121	84	25	273	133	347	254
08:00		20	23			84	29				
08:15		34	19			68	25				
08:30		26	17			73	17				
08:45		18	11	98	70	81	14	306	85	404	155
09:00		22	17			74	26				
09:15		20	17			64	23				
09:30		18	14			59	20				
09:45		25	9	85	57	45	17	242	86	327	143
10:00		7	8			31	13				
10:15		13	4			20	9				
10:30		12	13			24	12				
10:45		12	3	44	28	28	6	103	40	147	68
11:00		18	9			32	3				
11:15		20	5			29	7				
11:30		13	8			25	4				
11:45		14	5	65	27	25	10	111	24	176	51
Total		420	1266			1178	1482			1598	2748
Percent		24.9%	75.1%			44.3%	55.7%			36.8%	63.2%

Accurate Counts

Location : Bates Road North of
 Location : Massachusetts Avenue
 City/State: Arlington, MA
 Counter : 16430

Site Code: 01300006
 01300006

Start Time	13-May-09 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	24			1	34				
12:15		2	19			1	28				
12:30		6	31			1	30				
12:45		3	17	15	91	1	30	4	122	19	213
01:00		6	21			4	33				
01:15		0	31			2	38				
01:30		0	19			1	34				
01:45		2	22	8	93	0	38	7	143	15	236
02:00		1	18			0	35				
02:15		0	26			0	27				
02:30		1	21			0	31				
02:45		0	24	2	89	1	39	1	132	3	221
03:00		0	33			5	56				
03:15		0	41			0	49				
03:30		0	37			2	47				
03:45		0	32	0	143	0	52	7	204	7	347
04:00		1	46			0	31				
04:15		0	40			0	39				
04:30		3	42			1	42				
04:45		4	61	6	189	4	36	5	148	13	337
05:00		0	66			3	38				
05:15		1	51			2	38				
05:30		3	45			14	54				
05:45		4	38	8	200	4	56	23	186	31	386
06:00		1	40			9	39				
06:15		8	29			17	41				
06:30		3	44			25	46				
06:45		17	18	29	131	48	45	99	171	128	302
07:00		11	31			52	33				
07:15		19	30			74	36				
07:30		22	25			79	36				
07:45		31	26	83	112	79	27	284	132	367	244
08:00		33	21			84	36				
08:15		20	16			85	24				
08:30		31	31			81	30				
08:45		22	27			80	21	330	111	436	206
09:00		18	7	106	95	84	24				
09:15		21	15			73	24				
09:30		17	16			57	25				
09:45		30	23	86	61	53	25	267	98	353	159
10:00		13	6			46	9				
10:15		23	10			46	13				
10:30		23	10			28	6				
10:45		18	4	77	30	22	7	142	35	219	65
11:00		31	5			26	3				
11:15		27	8			38	9				
11:30		22	7			30	8				
11:45		15	5	95	25	41	5	135	25	230	50
Total		517	1259			1304	1507			1821	2766
Percent		29.1%	70.9%			46.4%	53.6%			39.7%	60.3%

Accurate Counts **978-664-2565**

Location : Bates Road North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16430

Start Time	14-May-09 Thu	NB	Morning	Afternoon	Hour Totals		Morning	Afternoon	Hour Totals		Combined Totals	
					Morning	Afternoon			Morning	Afternoon	Morning	Afternoon
12:00		2		16								
12:15		1		24	4	44		40				
12:30		1		28	1	26		26				
12:45		3		23	1	35		35	10	145	17	236
01:00		1		11	3	37		37				
01:15		0		15	2	36		36				
01:30		1		14	2	27		27				
01:45		0		29	0	37	7	37	7	137	9	206
02:00		0		23	1	31		31				
02:15		0		18	0	33		33				
02:30		0		28	0	37		37				
02:45		1		25	2	27	3	27	3	128	4	222
03:00		0		35	0	46		46				
03:15		1		41	1	57		57				
03:30		0		31	1	40		40				
03:45		0		39	3	49	5	49	5	192	6	338
04:00		1		46	1	43		43				
04:15		1		54	0	44		44				
04:30		1		57	1	35		35				
04:45		1		57	3	36	5	36	5	158	9	372
05:00		0		54	3	43		43				
05:15		4		53	3	47		47				
05:30		3		54	9	59		59				
05:45		2		40	5	58	20	58	20	207	29	408
06:00		3		46	7	41		41				
06:15		6		49	19	42		42				
06:30		8		43	27	38		38				
06:45		6		35	44	54	97	54	97	175	120	348
07:00		10		37	40	40		40				
07:15		11		33	64	35		35				
07:30		14		18	84	34		34				
07:45		33		20	76	43	264	43	264	152	332	260
08:00		19		23	81	27		27				
08:15		26		24	78	24		24				
08:30		29		23	70	34		34				
08:45		29		21	77	22	306	22	306	107	409	198
09:00		36		10	76	24		24				
09:15		22		13	70	14		14				
09:30		16		17	44	15		15				
09:45		16		7	35	13	225	13	225	66	315	113
10:00		15		8	37	9		9				
10:15		17		6	37	14		14				
10:30		18		11	32	8		8				
10:45		15		2	31	10	137	10	137	41	202	68
11:00		13		11	37	8		8				
11:15		18		3	23	9		9				
11:30		13		10	29	5		5				
11:45		22		0	41	1	130	1	130	23	196	47
Total		439	1285		1209	1531					1648	2816
Percent		25.5%	74.5%		44.1%	55.9%					36.9%	63.1%
Grand Total		3019	8232		7619	10529					10638	18761
Percent		26.8%	73.2%		42.0%	58.0%					36.2%	63.8%
ADT		ADT 4,200	ADT 4,200		ADT 4,200	ADT 4,200						

Accurate Counts 978-664-2565

Page 1

Location : Bates Road North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16430

Site Code: 01300006
01300006

Start Time	04-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	*	*	*	*	6	9	21	22	19	22	15	18
01:00	*	*	*	*	*	*	*	*	4	9	7	10	14	12	8	10
02:00	*	*	*	*	*	*	*	*	2	3	8	10	7	10	6	8
03:00	*	*	*	*	*	*	*	*	5	5	2	8	4	4	4	6
04:00	*	*	*	*	*	*	*	*	4	8	4	2	3	4	4	5
05:00	*	*	*	*	*	*	*	*	8	19	3	12	6	9	6	13
06:00	*	*	*	*	*	*	*	*	27	119	4	38	11	22	14	60
07:00	*	*	*	*	*	*	*	*	85	310	36	85	17	39	46	145
08:00	*	*	*	*	*	*	*	*	102	328	49	109	38	61	63	166
09:00	*	*	*	*	*	*	*	*	74	238	69	155	51	96	65	163
10:00	*	*	*	*	*	*	*	*	75	152	102	184	63	119	80	152
11:00	*	*	*	*	*	*	*	*	70	150	104	173	80	129	85	151
12:00 PM	*	*	*	*	*	*	*	*	88	158	123	207	82	150	98	172
01:00	*	*	*	*	*	*	*	*	111	135	113	192	100	146	108	158
02:00	*	*	*	*	*	*	*	*	103	159	99	156	83	157	95	157
03:00	*	*	*	*	*	*	*	*	143	214	109	167	89	155	114	179
04:00	*	*	*	*	*	*	*	*	210	191	95	145	101	135	135	157
05:00	*	*	*	*	*	*	*	*	183	180	96	147	79	129	119	152
06:00	*	*	*	*	*	*	*	*	138	178	89	153	69	120	99	150
07:00	*	*	*	*	*	*	*	*	120	153	71	128	94	119	95	133
08:00	*	*	*	*	*	*	*	*	73	99	71	105	52	84	65	96
09:00	*	*	*	*	*	*	*	*	60	61	56	89	46	47	54	66
10:00	*	*	*	*	*	*	*	*	37	46	48	55	31	36	39	46
11:00	*	*	*	*	*	*	*	*	36	47	32	47	18	20	29	38
Lane	0	0	0	0	0	0	0	0	1764	2971	1411	2399	1157	1825	1446	2401
Day	0		0		0		0		4735		3810		2982		3847	
AM Peak									08:00	08:00	11:00	10:00	11:00	11:00	11:00	08:00
Vol.									102	328	104	184	80	129	85	166
PM Peak									16:00	15:00	12:00	12:00	16:00	14:00	16:00	15:00
Vol.									210	214	123	207	101	157	135	179

Accurate Counts 978-664-2565

Page 2

Location : Bates Road North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 16430

Site Code: 01300006
01300006

Start Time	11-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average			
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB		
12:00 AM	9	14	8	9	15	4	7	10	*	*	*	*	*	*	10	9		
01:00	9	3	3	5	8	7	2	7	*	*	*	*	*	*	6	6		
02:00	0	3	0	2	2	1	1	3	*	*	*	*	*	*	1	2		
03:00	1	6	3	6	0	7	1	5	*	*	*	*	*	*	1	6		
04:00	4	9	1	6	8	5	4	5	*	*	*	*	*	*	4	6		
05:00	5	20	12	19	8	23	9	20	*	*	*	*	*	*	8	20		
06:00	21	94	27	96	29	99	23	97	*	*	*	*	*	*	25	96		
07:00	80	285	74	273	83	284	68	264	*	*	*	*	*	*	76	276		
08:00	106	321	98	306	106	330	103	306	*	*	*	*	*	*	103	316		
09:00	79	217	85	242	86	267	90	225	*	*	*	*	*	*	85	238		
10:00	78	156	44	103	77	142	65	137	*	*	*	*	*	*	66	134		
11:00	67	115	65	111	95	135	66	130	*	*	*	*	*	*	73	123		
12:00 PM	75	133	68	121	91	122	91	145	*	*	*	*	*	*	81	130		
01:00	83	132	82	120	93	143	69	137	*	*	*	*	*	*	82	133		
02:00	90	153	107	147	89	132	94	128	*	*	*	*	*	*	95	140		
03:00	158	216	143	193	143	204	146	192	*	*	*	*	*	*	148	201		
04:00	210	156	195	164	189	148	214	158	*	*	*	*	*	*	202	156		
05:00	205	171	192	190	200	186	201	207	*	*	*	*	*	*	200	188		
06:00	193	190	176	179	131	171	173	175	*	*	*	*	*	*	168	179		
07:00	97	127	121	133	112	132	108	152	*	*	*	*	*	*	110	136		
08:00	67	88	70	85	95	111	91	107	*	*	*	*	*	*	81	98		
09:00	42	75	57	86	61	98	47	66	*	*	*	*	*	*	52	81		
10:00	35	39	28	40	30	35	27	41	*	*	*	*	*	*	30	39		
11:00	19	20	27	24	25	25	24	23	*	*	*	*	*	*	24	23		
Lane	1733	2742	1686	2660	1776	2811	1724	2740	0	0	0	0	0	0	1731	2736		
Day	4475		4346		4587		4464		0		0		0		4467			
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	08:00	08:00									08:00	08:00
Vol.	106	321	98	306	106	330	103	306									103	316
PM Peak	16:00	15:00	16:00	15:00	17:00	15:00	16:00	17:00									16:00	15:00
Vol.	210	215	195	193	200	204	214	207									202	201

Comb. Total	4475	4346	4587	4464	4735	3810	2982	8314
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ADT	ADT 4,200	AADT 4,200
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TRAFFIC COUNTS

May 2010

Accurate Counts
978-664-2565

Location : Varnum Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140

Site Code: 14720001
147200v1

Start Time	26-May-10 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	6			0	3				
12:15		2	5			0	6				
12:30		3	6			0	5				
12:45		1	3	7	20	1	5	1	19	8	39
01:00		0	3			0	3				
01:15		0	5			0	4				
01:30		0	4			0	3				
01:45		0	3	0	15	0	8	0	18	0	33
02:00		0	2			0	8				
02:15		0	2			0	5				
02:30		1	8			1	2				
02:45		0	4	1	16	0	4	1	19	2	35
03:00		0	2			1	3				
03:15		0	3			1	6				
03:30		0	6			0	5				
03:45		1	4	1	15	0	3	2	17	3	32
04:00		1	5			0	5				
04:15		0	5			0	2				
04:30		3	4			0	6				
04:45		2	3	6	17	0	10	0	23	6	40
05:00		1	4			0	10				
05:15		1	2			0	4				
05:30		2	8			0	4				
05:45		2	4	6	18	0	10	0	28	6	46
06:00		3	6			2	7				
06:15		2	6			1	4				
06:30		3	11			1	5				
06:45		2	3	10	26	2	10	6	26	16	52
07:00		1	15			2	4				
07:15		8	4			6	3				
07:30		12	7			14	6				
07:45		8	7	29	33	6	8	28	21	57	54
08:00		5	6			18	2				
08:15		7	3			10	7				
08:30		6	4			6	9				
08:45		7	10	25	23	7	5	41	23	66	46
09:00		8	5			3	4				
09:15		3	5			4	2				
09:30		2	2			6	4				
09:45		5	5	18	17	5	1	18	11	36	28
10:00		8	6			7	1				
10:15		3	2			4	2				
10:30		3	0			8	6				
10:45		4	4	18	12	5	3	24	12	42	24
11:00		4	1			2	0				
11:15		5	2			5	1				
11:30		2	0			5	4				
11:45		8	0	19	3	3	1	15	6	34	9
Total		140	215			136	223			276	438
Percent		39.4%	60.6%			37.9%	62.1%			38.7%	61.3%

Accurate Counts
978-664-2565

Location : Varnum Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140

Site Code: 14720001
147200v1

Start Time	27-May-10 Thu	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	1			1	2				
12:15		2	9			0	3				
12:30		0	6			0	9				
12:45		0	5	3	21	0	7	1	21	4	42
01:00		0	7			1	2				
01:15		0	5			0	5				
01:30		0	4			0	2				
01:45		0	2	0	18	0	6	1	15	1	33
02:00		0	1			0	8				
02:15		0	4			0	6				
02:30		1	10			1	4				
02:45		0	4	1	19	0	3	1	21	2	40
03:00		0	7			0	5				
03:15		0	5			0	5				
03:30		0	2			0	6				
03:45		0	10	0	24	0	4	0	20	0	44
04:00		0	4			0	4				
04:15		0	5			0	7				
04:30		3	5			0	6				
04:45		1	5	4	19	0	7	0	24	4	43
05:00		1	6			0	6				
05:15		1	8			0	3				
05:30		2	3			1	8				
05:45		0	2	4	19	0	2	1	19	5	38
06:00		5	4			1	5				
06:15		1	3			0	7				
06:30		2	6			2	10				
06:45		3	4	11	17	0	8	3	30	14	47
07:00		4	8			2	2				
07:15		4	7			9	5				
07:30		13	6			13	3				
07:45		11	3	32	24	8	4	32	14	64	38
08:00		6	3			15	8				
08:15		1	5			10	4				
08:30		8	3			10	5				
08:45		6	11	21	22	5	4	40	21	61	43
09:00		7	10			10	3				
09:15		2	3			4	4				
09:30		3	5			9	2				
09:45		5	1	17	19	7	4	30	13	47	32
10:00		2	4			5	7				
10:15		4	0			2	2				
10:30		7	0			6	1				
10:45		5	0	18	4	2	2	15	12	33	16
11:00		5	0			3	0				
11:15		3	0			1	0				
11:30		3	0			5	0				
11:45		5	0	16	0	2	0	11	0	27	0
Total		127	206			135	210			262	416
Percent		38.1%	61.9%			39.1%	60.9%			38.6%	61.4%
Grand Total		267	421			271	433			538	854
Percent		38.8%	61.2%			38.5%	61.5%			38.6%	61.4%

ADT

ADT 696

AADT 696

Accurate Counts 978-664-2565

Location : Varnum Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140

Site Code: 14720001
147200v1

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	7	1	3	1	*	*	*	*	*	*	5	1
01:00	*	*	*	*	0	0	0	1	*	*	*	*	*	*	0	0
02:00	*	*	*	*	1	1	1	1	*	*	*	*	*	*	1	1
03:00	*	*	*	*	1	2	0	0	*	*	*	*	*	*	0	1
04:00	*	*	*	*	6	0	4	0	*	*	*	*	*	*	5	0
05:00	*	*	*	*	6	0	4	1	*	*	*	*	*	*	5	0
06:00	*	*	*	*	10	6	11	3	*	*	*	*	*	*	10	4
07:00	*	*	*	*	29	28	32	32	*	*	*	*	*	*	30	30
08:00	*	*	*	*	25	41	21	40	*	*	*	*	*	*	23	40
09:00	*	*	*	*	18	18	17	30	*	*	*	*	*	*	18	24
10:00	*	*	*	*	18	24	18	15	*	*	*	*	*	*	18	20
11:00	*	*	*	*	19	15	16	11	*	*	*	*	*	*	18	13
12:00 PM	*	*	*	*	20	19	21	21	*	*	*	*	*	*	20	20
01:00	*	*	*	*	15	18	18	15	*	*	*	*	*	*	16	16
02:00	*	*	*	*	16	19	19	21	*	*	*	*	*	*	18	20
03:00	*	*	*	*	15	17	24	20	*	*	*	*	*	*	20	18
04:00	*	*	*	*	17	23	19	24	*	*	*	*	*	*	18	24
05:00	*	*	*	*	18	28	19	19	*	*	*	*	*	*	18	24
06:00	*	*	*	*	26	26	17	30	*	*	*	*	*	*	22	28
07:00	*	*	*	*	33	21	24	14	*	*	*	*	*	*	28	18
08:00	*	*	*	*	23	23	22	21	*	*	*	*	*	*	22	22
09:00	*	*	*	*	17	11	19	13	*	*	*	*	*	*	18	12
10:00	*	*	*	*	12	12	4	12	*	*	*	*	*	*	8	12
11:00	*	*	*	*	3	6	0	0	*	*	*	*	*	*	2	3
Lane	0	0	0	0	355	359	333	345	0	0	0	0	0	0	343	351
Day	0		0		714		678		0		0		0		694	
AM Peak					07:00	08:00	07:00	08:00							07:00	08:00
Vol.					29	41	32	40							30	40
PM Peak					19:00	17:00	15:00	18:00							19:00	18:00
Vol.					33	28	24	30							28	28

Comb. Total	0	0	714	678	0	0	0	694
ADT	ADT 696		AADT 696					

Accurate Counts **978-664-2565**

Location : Varnum Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140
Northbound

Site Code: 14720001
147200S1

Start Time	15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/26/10	0	1	2	1	2	1	0	0	0	0	0	0	0	0	7	27-36	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17-26	1
04:00	1	0	1	1	3	0	0	0	0	0	0	0	0	0	6	24-33	5
05:00	0	0	2	3	1	0	0	0	0	0	0	0	0	0	6	22-31	6
06:00	2	0	4	2	2	0	0	0	0	0	0	0	0	0	10	21-30	6
07:00	1	1	8	11	6	2	0	0	0	0	0	0	0	0	29	22-31	20
08:00	3	3	7	7	3	2	0	0	0	0	0	0	0	0	25	18-27	14
09:00	2	3	10	2	1	0	0	0	0	0	0	0	0	0	18	18-27	15
10:00	2	6	7	2	0	1	0	0	0	0	0	0	0	0	18	14-23	13
11:00	3	5	6	5	0	0	0	0	0	0	0	0	0	0	19	13-22	11
12 PM	2	8	7	3	0	0	0	0	0	0	0	0	0	0	20	14-23	15
13:00	5	0	5	1	3	1	0	0	0	0	0	0	0	0	15	21-30	6
14:00	1	2	8	4	1	0	0	0	0	0	0	0	0	0	16	19-28	13
15:00	1	1	6	5	1	0	0	0	1	0	0	0	0	0	15	20-29	11
16:00	3	3	5	5	1	0	0	0	0	0	0	0	0	0	17	18-27	10
17:00	2	2	4	7	2	1	0	0	0	0	0	0	0	0	18	22-31	12
18:00	4	5	8	7	1	1	0	0	0	0	0	0	0	0	26	18-27	15
19:00	4	7	16	5	1	0	0	0	0	0	0	0	0	0	33	16-25	23
20:00	5	5	7	5	1	0	0	0	0	0	0	0	0	0	23	13-22	12
21:00	5	3	6	1	2	0	0	0	0	0	0	0	0	0	17	16-25	9
22:00	1	1	8	0	2	0	0	0	0	0	0	0	0	0	12	15-24	9
23:00	1	1	0	0	1	0	0	0	0	0	0	0	0	0	3	7-16	2
Total	48	57	128	78	34	9	0	0	1	0	0	0	0	0	355		
Percent	13.5%	16.1%	36.1%	22.0%	9.6%	2.5%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	09:00	07:00	07:00	07:00									07:00		
Vol.	3	6	10	11	6	2									29		
PM Peak	13:00	12:00	19:00	17:00	13:00	13:00			15:00						19:00		
Vol.	5	8	16	7	3	1			1						33		

Accurate Counts **978-664-2565**

Location : Varnum Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140
Northbound

Site Code: 14720001
147200S1

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	*	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4	22-31	4
05:00	0	1	0	2	1	0	0	0	0	0	0	0	0	0	4	22-31	3
06:00	1	1	4	5	0	0	0	0	0	0	0	0	0	0	11	20-29	9
07:00	4	5	12	7	3	1	0	0	0	0	0	0	0	0	32	18-27	19
08:00	2	3	8	5	3	0	0	0	0	0	0	0	0	0	21	18-27	13
09:00	4	3	5	4	1	0	0	0	0	0	0	0	0	0	17	18-27	10
10:00	3	4	8	2	1	0	0	0	0	0	0	0	0	0	18	17-26	13
11:00	4	3	2	5	2	0	0	0	0	0	0	0	0	0	16	23-32	9
12 PM	2	4	5	7	2	1	0	0	0	0	0	0	0	0	21	18-27	12
13:00	2	0	11	2	3	0	0	0	0	0	0	0	0	0	18	21-30	13
14:00	3	5	4	6	1	0	0	0	0	0	0	0	0	0	19	22-31	11
15:00	4	5	9	4	1	1	0	0	0	0	0	0	0	0	24	15-24	14
16:00	3	5	4	5	1	1	0	0	0	0	0	0	0	0	19	13-22	9
17:00	1	2	8	5	3	0	0	0	0	0	0	0	0	0	19	19-28	13
18:00	2	1	6	6	1	1	0	0	0	0	0	0	0	0	17	20-29	12
19:00	5	6	6	6	1	0	0	0	0	0	0	0	0	0	24	17-26	13
20:00	7	4	6	4	1	0	0	0	0	0	0	0	0	0	22	17-26	11
21:00	9	4	4	2	0	0	0	0	0	0	0	0	0	0	19	*	9
22:00	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4	17-26	3
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	59	58	105	80	26	5	0	0	0	0	0	0	0	0	333		
Percent	17.7%	17.4%	31.5%	24.0%	7.8%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	07:00	07:00	07:00	07:00									07:00		
Vol.	4	5	12	7	3	1									32		
PM Peak	21:00	19:00	13:00	12:00	13:00	12:00									15:00		
Vol.	9	6	11	7	3	1									24		
Total	107	115	233	158	60	14	0	0	1	0	0	0	0	0	688		
Percent	15.6%	16.7%	33.9%	23.0%	8.7%	2.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 15 MPH
50th Percentile : 23 MPH
85th Percentile : 30 MPH
95th Percentile : 34 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 391
Percent in Pace : 56.8%
Number of Vehicles > 20 MPH : 466
Percent of Vehicles > 20 MPH : 67.7%
Mean Speed(Average) : 22 MPH

Site Code: 14720001
147200S1

[illegible]

Accurate Counts **978-664-2565**

Location : Varnum Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140
Southbound

Site Code: 14720001
147200S1

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
06:00	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	13-22	2
07:00	8	9	7	8	0	0	0	0	0	0	0	0	0	0	32	16-25	16
08:00	7	11	12	10	0	0	0	0	0	0	0	0	0	0	40	16-25	23
09:00	3	6	12	6	3	0	0	0	0	0	0	0	0	0	30	17-26	19
10:00	3	3	6	3	0	0	0	0	0	0	0	0	0	0	15	18-27	11
11:00	1	2	7	0	1	0	0	0	0	0	0	0	0	0	11	15-24	9
12 PM	1	9	7	4	0	0	0	0	0	0	0	0	0	0	21	15-24	16
13:00	0	4	9	2	0	0	0	0	0	0	0	0	0	0	15	17-26	14
14:00	4	7	6	4	0	0	0	0	0	0	0	0	0	0	21	12-21	13
15:00	5	4	7	4	0	0	0	0	0	0	0	0	0	0	20	17-26	12
16:00	4	5	6	6	3	0	0	0	0	0	0	0	0	0	24	17-26	12
17:00	3	4	8	4	0	0	0	0	0	0	0	0	0	0	19	17-26	13
18:00	4	7	13	5	0	1	0	0	0	0	0	0	0	0	30	16-25	20
19:00	3	3	7	1	0	0	0	0	0	0	0	0	0	0	14	17-26	11
20:00	7	5	7	2	0	0	0	0	0	0	0	0	0	0	21	16-25	12
21:00	4	3	5	1	0	0	0	0	0	0	0	0	0	0	13	17-26	9
22:00	4	6	2	0	0	0	0	0	0	0	0	0	0	0	12	12-21	11
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	63	90	124	60	7	1	0	0	0	0	0	0	0	0	345		
Percent	18.3%	26.1%	35.9%	17.4%	2.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	08:00	08:00	08:00	09:00										08:00		
Vol.	8	11	12	10	3										40		
PM Peak	20:00	12:00	18:00	16:00	16:00	18:00									18:00		
Vol.	7	9	13	6	3	1									30		
Total	128	159	241	142	29	3	2	0	0	0	0	0	0	0	704		
Percent	18.2%	22.6%	34.2%	20.2%	4.1%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 13 MPH
50th Percentile : 22 MPH
85th Percentile : 28 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 400
Percent in Pace : 56.8%
Number of Vehicles > 20 MPH : 417
Percent of Vehicles > 20 MPH : 59.2%
Mean Speed(Average) : 21 MPH

Accurate Counts
978-664-2565

Location : Varnum Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140
Northbound, Southbound

Site Code: 14720001
147200S1

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/26/10	0	1	2	2	2	1	0	0	0	0	0	0	0	0	8	23-32	6
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	17-26	2
03:00	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3	18-27	3
04:00	1	0	1	1	3	0	0	0	0	0	0	0	0	0	6	24-33	5
05:00	0	0	2	3	1	0	0	0	0	0	0	0	0	0	6	22-31	6
06:00	2	1	5	5	3	0	0	0	0	0	0	0	0	0	16	20-29	10
07:00	4	7	15	20	9	2	0	0	0	0	0	0	0	0	57	21-30	35
08:00	6	10	16	22	9	3	0	0	0	0	0	0	0	0	66	21-30	38
09:00	3	5	16	8	4	0	0	0	0	0	0	0	0	0	36	19-28	24
10:00	4	10	15	9	0	2	2	0	0	0	0	0	0	0	42	16-25	25
11:00	8	7	9	9	1	0	0	0	0	0	0	0	0	0	34	19-28	19
12 PM	3	11	16	8	1	0	0	0	0	0	0	0	0	0	39	16-25	27
13:00	11	4	12	1	4	1	0	0	0	0	0	0	0	0	33	16-25	16
14:00	4	6	16	6	3	0	0	0	0	0	0	0	0	0	35	17-26	23
15:00	6	4	10	10	1	0	0	0	1	0	0	0	0	0	32	21-30	20
16:00	6	9	13	11	1	0	0	0	0	0	0	0	0	0	40	17-26	24
17:00	7	8	14	13	3	1	0	0	0	0	0	0	0	0	46	19-28	27
18:00	12	10	17	11	1	1	0	0	0	0	0	0	0	0	52	17-26	28
19:00	9	13	24	6	2	0	0	0	0	0	0	0	0	0	54	16-25	37
20:00	11	9	16	9	1	0	0	0	0	0	0	0	0	0	46	17-26	26
21:00	11	5	8	1	3	0	0	0	0	0	0	0	0	0	28	16-25	13
22:00	4	4	13	1	2	0	0	0	0	0	0	0	0	0	24	16-25	17
23:00	1	2	3	1	2	0	0	0	0	0	0	0	0	0	9	14-23	6
Total	113	126	245	160	56	11	2	0	1	0	0	0	0	0	714		
Percent	15.8%	17.6%	34.3%	22.4%	7.8%	1.5%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	08:00	08:00	08:00	07:00	08:00	10:00									08:00	
Vol.	8	10	16	22	9	3	2									66	
PM Peak	18:00	19:00	19:00	17:00	13:00	13:00			15:00							19:00	
Vol.	12	13	24	13	4	1			1							54	

Accurate Counts 978-664-2565

Location : Varnum Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 18140
Northbound, Southbound

Site Code: 14720001
147200S1

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4	8-17	4
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
02:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	13-22	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4	22-31	4
05:00	1	1	0	2	1	0	0	0	0	0	0	0	0	0	5	22-31	3
06:00	2	1	6	5	0	0	0	0	0	0	0	0	0	0	14	20-29	11
07:00	12	14	19	15	3	1	0	0	0	0	0	0	0	0	64	17-26	34
08:00	9	14	20	15	3	0	0	0	0	0	0	0	0	0	61	17-26	35
09:00	7	9	17	10	4	0	0	0	0	0	0	0	0	0	47	17-26	27
10:00	6	7	14	5	1	0	0	0	0	0	0	0	0	0	33	16-25	21
11:00	5	5	9	5	3	0	0	0	0	0	0	0	0	0	27	15-24	14
12 PM	3	13	12	11	2	1	0	0	0	0	0	0	0	0	42	16-25	25
13:00	2	4	20	4	3	0	0	0	0	0	0	0	0	0	33	17-26	25
14:00	7	12	10	10	1	0	0	0	0	0	0	0	0	0	40	16-25	22
15:00	9	9	16	8	1	1	0	0	0	0	0	0	0	0	44	17-26	26
16:00	7	10	10	11	4	1	0	0	0	0	0	0	0	0	43	17-26	21
17:00	4	6	16	9	3	0	0	0	0	0	0	0	0	0	38	20-29	26
18:00	6	8	19	11	1	2	0	0	0	0	0	0	0	0	47	18-27	30
19:00	8	9	13	7	1	0	0	0	0	0	0	0	0	0	38	17-26	23
20:00	14	9	13	6	1	0	0	0	0	0	0	0	0	0	43	17-26	23
21:00	13	7	9	3	0	0	0	0	0	0	0	0	0	0	32	16-25	16
22:00	5	7	3	1	0	0	0	0	0	0	0	0	0	0	16	11-20	12
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	122	148	229	140	33	6	0	0	0	0	0	0	0	0	678		
Percent	18.0%	21.8%	33.8%	20.6%	4.9%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	08:00	07:00	09:00	07:00										07:00	
Vol.	12	14	20	15	4	1										64	
PM Peak	20:00	12:00	13:00	12:00	16:00	18:00										18:00	
Vol.	14	13	20	11	4	2										47	
Total	235	274	474	300	89	17	2	0	1	0	0	0	0	0	1392		
Percent	16.9%	19.7%	34.1%	21.6%	6.4%	1.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 14 MPH
50th Percentile : 22 MPH
85th Percentile : 29 MPH
95th Percentile : 33 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 774
Percent in Pace : 55.6%
Number of Vehicles > 20 MPH : 883
Percent of Vehicles > 20 MPH : 63.4%
Mean Speed(Average) : 21 MPH

Accurate Counts

978-664-2565

Location : Milton Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10011

Site Code: 14720002
147200V2


















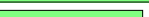
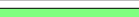



Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	1	6	4	7	*	*	2	6
12:15	2	5	1	12	*	*	2	8
12:30	4	13	4	6	*	*	4	10
12:45	2	5	0	16	*	*	1	10
01:00	0	11	0	17	*	*	0	14
01:15	0	10	2	12	*	*	1	11
01:30	0	5	2	14	*	*	1	10
01:45	0	8	0	15	*	*	0	12
02:00	0	9	0	14	*	*	0	12
02:15	0	11	1	11	*	*	0	11
02:30	1	10	0	10	*	*	0	10
02:45	0	10	0	5	*	*	0	8
03:00	0	8	0	13	*	*	0	10
03:15	0	9	0	12	*	*	0	10
03:30	0	14	0	9	*	*	0	12
03:45	0	9	0	17	*	*	0	13
04:00	0	11	0	14	*	*	0	12
04:15	0	10	0	7	*	*	0	8
04:30	0	10	0	16	*	*	0	13
04:45	0	16	0	15	*	*	0	16
05:00	0	12	0	18	*	*	0	15
05:15	0	16	0	11	*	*	0	14
05:30	2	24	2	7	*	*	2	16
05:45	2	16	0	17	*	*	1	16
06:00	1	17	2	13	*	*	2	15
06:15	5	12	3	9	*	*	4	10
06:30	4	22	6	10	*	*	5	16
06:45	8	14	6	16	*	*	7	15
07:00	5	15	5	13	*	*	5	14
07:15	8	13	11	23	*	*	10	18
07:30	15	12	13	8	*	*	14	10
07:45	27	10	14	12	*	*	20	11
08:00	25	13	17	12	*	*	21	12
08:15	25	12	18	11	*	*	22	12
08:30	16	14	24	8	*	*	20	11
08:45	26	18	20	13	*	*	23	16
09:00	15	13	17	21	*	*	16	17
09:15	8	7	9	16	*	*	8	12
09:30	7	11	4	12	*	*	6	12
09:45	9	9	10	11	*	*	10	10
10:00	7	9	7	3	*	*	7	6
10:15	10	13	12	6	*	*	11	10
10:30	15	3	15	7	*	*	15	5
10:45	9	7	18	3	*	*	14	5
11:00	3	4	7	4	*	*	5	4
11:15	7	4	9	1	*	*	8	2
11:30	10	3	10	2	*	*	10	2
11:45	10	3	12	2	*	*	11	2
Total	289	516	285	531	0	0	288	524
Combined Total	805		816		0		812	
Peak	07:45	05:15	08:00	06:30			08:00	06:30
Vol.	93	73	79	62			86	63
P.H.F.	0.861	0.760	0.823	0.674			0.935	0.875
ADT		ADT 810	AADT 810					

Accurate Counts

978-664-2565

Location : Milton Street South of
 Location : Massachusetts Avenue
 City/State: Arlington, MA
 Counter : 10011

Site Code: 14720002
 147200V2

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	9	9	*	9	*	*	9 
01:00	*	*	0	4	*	2	*	*	2 
02:00	*	*	1	1	*	1	*	*	1 
03:00	*	*	0	0	*	0	*	*	0
04:00	*	*	0	0	*	0	*	*	0
05:00	*	*	4	2	*	3	*	*	3 
06:00	*	*	18	17	*	18	*	*	18 
07:00	*	*	55	43	*	49	*	*	49 
08:00	*	*	92	79	*	86	*	*	86 
09:00	*	*	39	40	*	40	*	*	40 
10:00	*	*	41	52	*	46	*	*	46 
11:00	*	*	30	38	*	34	*	*	34 
12:00 PM	*	*	29	41	*	35	*	*	35 
01:00	*	*	34	58	*	46	*	*	46 
02:00	*	*	40	40	*	40	*	*	40 
03:00	*	*	40	51	*	46	*	*	46 
04:00	*	*	47	52	*	50	*	*	50 
05:00	*	*	68	53	*	60	*	*	60 
06:00	*	*	65	48	*	56	*	*	56 
07:00	*	*	50	56	*	53	*	*	53 
08:00	*	*	57	44	*	50	*	*	50 
09:00	*	*	40	60	*	50	*	*	50 
10:00	*	*	32	19	*	26	*	*	26 
11:00	*	*	14	9	*	12	*	*	12 
Day Total	0	0	805	816	0	812	0	0	812
% Avg. WkDay	0.0%	0.0%	99.1%	100.5%	0.0%				
% Avg. Week	0.0%	0.0%	99.1%	100.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			92	79		86			86
PM Peak			17:00	21:00		17:00			17:00
Vol.			68	60		60			60
Grand Total	0	0	805	816	0	812	0	0	812
ADT	ADT 810		AADT 810						

Page 1

Site Code: 14720002
147200S2

[illegible]

Accurate Counts 978-664-2565

Location : Milton Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10011
Southbound

Site Code: 14720002
147200S2

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	4	0	3	2	0	0	0	0	0	0	0	0	0	0	9	18-27	5
01:00	2	1	1	0	0	0	0	0	0	0	0	0	0	0	4	*	2
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	*	2
06:00	1	4	6	5	1	0	0	0	0	0	0	0	0	0	17	17-26	11
07:00	3	6	13	15	4	2	0	0	0	0	0	0	0	0	43	21-30	28
08:00	7	10	15	36	11	0	0	0	0	0	0	0	0	0	79	21-30	51
09:00	5	9	14	9	3	0	0	0	0	0	0	0	0	0	40	17-26	24
10:00	11	11	22	8	0	0	0	0	0	0	0	0	0	0	52	16-25	33
11:00	8	7	17	5	1	0	0	0	0	0	0	0	0	0	38	16-25	24
12 PM	7	15	15	3	1	0	0	0	0	0	0	0	0	0	41	16-25	30
13:00	7	18	27	5	1	0	0	0	0	0	0	0	0	0	58	16-25	45
14:00	10	13	13	3	1	0	0	0	0	0	0	0	0	0	40	16-25	26
15:00	13	17	19	2	0	0	0	0	0	0	0	0	0	0	51	16-25	36
16:00	7	13	24	7	1	0	0	0	0	0	0	0	0	0	52	16-25	37
17:00	3	21	21	6	2	0	0	0	0	0	0	0	0	0	53	16-25	42
18:00	12	13	18	5	0	0	0	0	0	0	0	0	0	0	48	16-25	31
19:00	26	12	13	5	0	0	0	0	0	0	0	0	0	0	56	16-25	25
20:00	32	6	6	0	0	0	0	0	0	0	0	0	0	0	44	1-10	22
21:00	11	27	18	3	1	0	0	0	0	0	0	0	0	0	60	16-25	45
22:00	3	8	7	1	0	0	0	0	0	0	0	0	0	0	19	13-22	15
23:00	0	3	5	1	0	0	0	0	0	0	0	0	0	0	9	17-26	9
Total	174	214	278	121	27	2	0	0	0	0	0	0	0	0	816		
Percent	21.3%	26.2%	34.1%	14.8%	3.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	10:00	10:00	08:00	08:00	07:00										08:00	
Vol.	11	11	22	36	11	2										79	
PM Peak	20:00	21:00	13:00	16:00	17:00											21:00	
Vol.	32	27	27	7	2											60	
Total	305	429	559	264	60	4	0	0	0	0	0	0	0	0	1621		
Percent	18.8%	26.5%	34.5%	16.3%	3.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 13 MPH
50th Percentile : 21 MPH
85th Percentile : 27 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 988
Percent in Pace : 61.0%
Number of Vehicles > 20 MPH : 887
Percent of Vehicles > 20 MPH : 54.7%
Mean Speed(Average) : 20 MPH

Accurate Counts
978-664-2565

Location : Egerton Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 14015
























Site Code: 14720003
147200V3

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	1	13	3	15	*	*	2	14
12:15	3	8	4	12	*	*	4	10
12:30	1	15	1	16	*	*	1	16
12:45	2	14	2	15	*	*	2	14
01:00	2	10	2	15	*	*	2	12
01:15	0	8	0	11	*	*	0	10
01:30	0	5	0	16	*	*	0	10
01:45	0	18	2	6	*	*	1	12
02:00	1	20	1	18	*	*	1	19
02:15	0	13	1	16	*	*	0	14
02:30	0	15	0	13	*	*	0	14
02:45	0	15	1	20	*	*	0	18
03:00	0	18	0	20	*	*	0	19
03:15	0	14	1	12	*	*	0	13
03:30	0	12	0	13	*	*	0	12
03:45	1	10	0	21	*	*	0	16
04:00	1	11	0	8	*	*	0	10
04:15	0	16	0	14	*	*	0	15
04:30	0	16	0	21	*	*	0	18
04:45	0	13	0	17	*	*	0	15
05:00	1	18	0	26	*	*	0	22
05:15	1	23	2	24	*	*	2	24
05:30	0	26	0	14	*	*	0	20
05:45	2	15	1	21	*	*	2	18
06:00	1	12	3	20	*	*	2	16
06:15	0	22	1	13	*	*	0	18
06:30	4	23	2	23	*	*	3	23
06:45	4	18	10	22	*	*	7	20
07:00	13	17	12	20	*	*	12	18
07:15	11	15	13	17	*	*	12	16
07:30	42	22	29	16	*	*	36	19
07:45	54	15	40	14	*	*	47	14
08:00	73	18	72	12	*	*	72	15
08:15	48	3	50	11	*	*	49	7
08:30	54	7	31	10	*	*	42	8
08:45	32	9	32	15	*	*	32	12
09:00	16	6	11	13	*	*	14	10
09:15	18	7	16	11	*	*	17	9
09:30	15	3	6	13	*	*	10	8
09:45	12	7	15	5	*	*	14	6
10:00	7	7	12	6	*	*	10	6
10:15	13	16	8	11	*	*	10	14
10:30	4	1	9	6	*	*	6	4
10:45	8	3	8	2	*	*	8	2
11:00	11	1	11	4	*	*	11	2
11:15	12	1	10	0	*	*	11	0
11:30	16	2	7	1	*	*	12	2
11:45	6	4	9	1	*	*	8	2
Total	490	585	438	650	0	0	462	616
Combined Total	1075		1088		0		1078	
Peak	07:45	05:00	07:45	04:30			07:45	05:00
Vol.	229	82	193	88			210	84
P.H.F.	0.784	0.788	0.670	0.846			0.729	0.875
ADT		ADT 1,082	AADT 1,082					

Accurate Counts
978-664-2565

Location : Egerton Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 14015

Site Code: 14720003
147200V3

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	7	10	*	8	*	*	8 
01:00	*	*	2	4	*	3	*	*	3 
02:00	*	*	1	3	*	2	*	*	2 
03:00	*	*	1	1	*	1	*	*	1 
04:00	*	*	1	0	*	0	*	*	0
05:00	*	*	4	3	*	4	*	*	4 
06:00	*	*	9	16	*	12	*	*	12 
07:00	*	*	120	94	*	107	*	*	107 
08:00	*	*	207	185	*	196	*	*	196 
09:00	*	*	61	48	*	54	*	*	54 
10:00	*	*	32	37	*	34	*	*	34 
11:00	*	*	45	37	*	41	*	*	41 
12:00 PM	*	*	50	58	*	54	*	*	54 
01:00	*	*	41	48	*	44	*	*	44 
02:00	*	*	63	67	*	65	*	*	65 
03:00	*	*	54	66	*	60	*	*	60 
04:00	*	*	56	60	*	58	*	*	58 
05:00	*	*	82	85	*	84	*	*	84 
06:00	*	*	75	78	*	76	*	*	76 
07:00	*	*	69	67	*	68	*	*	68 
08:00	*	*	37	48	*	42	*	*	42 
09:00	*	*	23	42	*	32	*	*	32 
10:00	*	*	27	25	*	26	*	*	26 
11:00	*	*	8	6	*	7	*	*	7 
Day Total	0	0	1075	1088	0	1078	0	0	1078
% Avg. WkDay	0.0%	0.0%	99.7%	100.9%	0.0%				
% Avg. Week	0.0%	0.0%	99.7%	100.9%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			207	185		196			196
PM Peak			17:00	17:00		17:00			17:00
Vol.			82	85		84			84
Grand Total	0	0	1075	1088	0	1078	0	0	1078
ADT	ADT 1,082		AADT 1,082						

978-664-2565

Southbound

147200S3

[illegible]

Accurate Counts 978-664-2565

Location : Egerton Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 14015
Southbound

Site Code: 14720003
147200S3

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	3	2	5	0	0	0	0	0	0	0	0	0	0	0	10	16-25	7
01:00	1	1	0	1	1	0	0	0	0	0	0	0	0	0	4	7-16	2
02:00	1	1	0	1	0	0	0	0	0	0	0	0	0	0	3	7-16	2
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	*	2
06:00	2	3	2	9	0	0	0	0	0	0	0	0	0	0	16	21-30	11
07:00	1	13	50	28	2	0	0	0	0	0	0	0	0	0	94	21-30	78
08:00	5	51	90	35	4	0	0	0	0	0	0	0	0	0	185	16-25	141
09:00	2	8	23	14	1	0	0	0	0	0	0	0	0	0	48	20-29	37
10:00	9	10	13	3	2	0	0	0	0	0	0	0	0	0	37	16-25	23
11:00	2	11	17	5	2	0	0	0	0	0	0	0	0	0	37	16-25	28
12 PM	4	20	28	5	1	0	0	0	0	0	0	0	0	0	58	16-25	48
13:00	10	21	10	5	2	0	0	0	0	0	0	0	0	0	48	16-25	31
14:00	11	18	32	6	0	0	0	0	0	0	0	0	0	0	67	16-25	50
15:00	10	25	25	6	0	0	0	0	0	0	0	0	0	0	66	16-25	50
16:00	10	21	25	4	0	0	0	0	0	0	0	0	0	0	60	16-25	46
17:00	2	13	49	19	2	0	0	0	0	0	0	0	0	0	85	20-29	68
18:00	5	22	39	10	1	1	0	0	0	0	0	0	0	0	78	16-25	61
19:00	11	34	20	1	1	0	0	0	0	0	0	0	0	0	67	16-25	54
20:00	5	21	21	1	0	0	0	0	0	0	0	0	0	0	48	16-25	42
21:00	8	18	15	1	0	0	0	0	0	0	0	0	0	0	42	16-25	33
22:00	5	9	8	2	1	0	0	0	0	0	0	0	0	0	25	14-23	17
23:00	1	3	1	1	0	0	0	0	0	0	0	0	0	0	6	9-18	4
Total	110	326	474	157	20	1	0	0	0	0	0	0	0	0	1088		
Percent	10.1%	30.0%	43.6%	14.4%	1.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	08:00	08:00	08:00	08:00											08:00	
Vol.	9	51	90	35	4											185	
PM Peak	14:00	19:00	17:00	17:00	13:00	18:00										17:00	
Vol.	11	34	49	19	2	1										85	
Total	232	613	932	341	42	2	1	0	0	0	0	0	0	0	2163		
Percent	10.7%	28.3%	43.1%	15.8%	1.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 16 MPH
50th Percentile : 22 MPH
85th Percentile : 26 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 1545
Percent in Pace : 71.4%
Number of Vehicles > 20 MPH : 1318
Percent of Vehicles > 20 MPH : 60.9%
Mean Speed(Average) : 21 MPH

Accurate Counts

978-664-2565

Location : Chandler Street East of
Location : Brooks Avenue
City/State: Arlington, MA
Counter : 2743








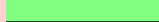















Site Code: 14720004
147200V4

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	1	8	2	11	0	0	1	6
12:15	1	6	1	12	1	0	1	6
12:30	2	9	2	10	1	0	2	6
12:45	0	9	0	15	0	0	0	8
01:00	1	11	1	12	2	*	1	12
01:15	0	5	0	11	1	*	0	8
01:30	0	8	0	10	0	*	0	9
01:45	0	18	0	19	0	*	0	18
02:00	0	15	0	18	0	*	0	16
02:15	0	23	0	19	0	*	0	21
02:30	1	16	0	24	0	*	0	20
02:45	0	20	0	21	0	*	0	20
03:00	0	21	1	17	0	*	0	19
03:15	0	17	0	12	0	*	0	14
03:30	0	24	0	32	0	*	0	28
03:45	1	27	0	20	0	*	0	24
04:00	0	23	0	27	0	*	0	25
04:15	0	38	1	32	0	*	0	35
04:30	0	43	0	30	1	*	0	36
04:45	1	39	0	32	0	*	0	36
05:00	1	32	0	35	1	*	1	34
05:15	1	33	2	27	2	*	2	30
05:30	1	30	0	27	1	*	1	28
05:45	3	32	2	27	1	*	2	30
06:00	2	30	4	25	1	*	2	28
06:15	2	35	4	29	3	*	3	32
06:30	4	28	6	35	0	*	3	32
06:45	7	27	1	26	0	*	3	26
07:00	7	31	7	35	0	*	5	33
07:15	14	14	14	18	0	*	9	16
07:30	18	16	15	13	0	*	11	14
07:45	21	11	16	11	0	*	12	11
08:00	46	7	47	9	0	*	31	8
08:15	22	4	31	7	0	*	18	6
08:30	30	7	22	11	0	*	17	9
08:45	22	10	22	9	0	*	15	10
09:00	23	6	22	8	0	*	15	7
09:15	11	6	12	8	0	*	8	7
09:30	5	3	6	6	0	*	4	4
09:45	19	6	10	5	0	*	10	6
10:00	6	6	5	9	0	*	4	8
10:15	6	6	13	5	0	*	6	6
10:30	6	3	5	5	0	*	4	4
10:45	16	2	5	3	0	*	7	2
11:00	9	3	4	4	0	*	4	4
11:15	10	2	8	1	0	*	6	2
11:30	9	0	9	4	0	*	6	2
11:45	4	2	3	1	0	*	2	2
Total	333	772	303	787	15	0	216	768
Combined Total	1105		1090		15		984	
Peak	08:00	04:15	08:00	04:15	05:30		08:00	04:15
Vol.	120	152	122	129	6		81	141
P.H.F.	0.652	0.884	0.649	0.921	0.500		0.653	0.979
ADT		ADT 1,098	AADT 1,098					

Accurate Counts
978-664-2565

Location : Chandler Street East of
Location : Brooks Avenue
City/State: Arlington, MA
Counter : 2743

Site Code: 14720004
147200V4

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	4	5	2	4	*	*	4 
01:00	*	*	1	1	3	2	*	*	2 
02:00	*	*	1	0	0	0	*	*	0
03:00	*	*	1	1	0	1	*	*	1 
04:00	*	*	1	1	1	1	*	*	1 
05:00	*	*	6	4	5	5	*	*	5 
06:00	*	*	15	15	4	11	*	*	11 
07:00	*	*	60	52	0	37	*	*	37 
08:00	*	*	120	122	0	81	*	*	81 
09:00	*	*	58	50	0	36	*	*	36 
10:00	*	*	34	28	0	21	*	*	21 
11:00	*	*	32	24	0	19	*	*	19 
12:00 PM	*	*	32	48	0	27	*	*	27 
01:00	*	*	42	52	*	47	*	*	47 
02:00	*	*	74	82	*	78	*	*	78 
03:00	*	*	89	81	*	85	*	*	85 
04:00	*	*	143	121	*	132	*	*	132 
05:00	*	*	127	116	*	122	*	*	122 
06:00	*	*	120	115	*	118	*	*	118 
07:00	*	*	72	77	*	74	*	*	74 
08:00	*	*	28	36	*	32	*	*	32 
09:00	*	*	21	27	*	24	*	*	24 
10:00	*	*	17	22	*	20	*	*	20 
11:00	*	*	7	10	*	8	*	*	8 
Day Total	0	0	1105	1090	15	985	0	0	985
% Avg. WkDay	0.0%	0.0%	112.2%	110.7%	1.5%				
% Avg. Week	0.0%	0.0%	112.2%	110.7%	1.5%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00	05:00	08:00			08:00
Vol.			120	122	5	81			81
PM Peak			16:00	16:00		16:00			16:00
Vol.			143	121		132			132
Grand Total	0	0	1105	1090	15	985	0	0	985
ADT	ADT 1,098		AADT 1,098						

Page 1

Site Code: 14720004
147200S4

[illegible]

Site Code: 14720004
147200S4

[illegible]

Site Code: 14720004
147200S4

[illegible]

Accurate Counts

978-664-2565

Page 1

Location : Marathon Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 5864
























Site Code: 14720005
147200V5

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	8	26	3	26	*	*	6	26
12:15	5	28	1	33	*	*	3	30
12:30	7	43	6	36	*	*	6	40
12:45	1	33	1	35	*	*	1	34
01:00	1	38	0	35	*	*	0	36
01:15	1	32	3	42	*	*	2	37
01:30	1	31	3	31	*	*	2	31
01:45	1	31	0	46	*	*	0	38
02:00	1	40	0	32	*	*	0	36
02:15	0	34	0	43	*	*	0	38
02:30	0	39	0	43	*	*	0	41
02:45	0	35	0	33	*	*	0	34
03:00	0	46	1	34	*	*	0	40
03:15	1	47	2	45	*	*	2	46
03:30	0	52	0	53	*	*	0	52
03:45	0	36	0	43	*	*	0	40
04:00	1	45	1	53	*	*	1	49
04:15	4	53	1	59	*	*	2	56
04:30	4	50	4	46	*	*	4	48
04:45	1	54	1	56	*	*	1	55
05:00	9	62	5	65	*	*	7	64
05:15	6	62	3	48	*	*	4	55
05:30	13	60	8	65	*	*	10	62
05:45	11	75	12	66	*	*	12	70
06:00	16	47	20	54	*	*	18	50
06:15	18	59	19	55	*	*	18	57
06:30	29	54	33	51	*	*	31	52
06:45	41	55	39	61	*	*	40	58
07:00	53	44	58	42	*	*	56	43
07:15	43	40	36	36	*	*	40	38
07:30	51	37	49	43	*	*	50	40
07:45	46	31	61	29	*	*	54	30
08:00	49	37	55	26	*	*	52	32
08:15	53	33	52	29	*	*	52	31
08:30	61	23	64	39	*	*	62	31
08:45	63	21	61	28	*	*	62	24
09:00	52	20	52	15	*	*	52	18
09:15	56	18	38	22	*	*	47	20
09:30	35	23	40	19	*	*	38	21
09:45	40	21	37	17	*	*	38	19
10:00	36	18	38	16	*	*	37	17
10:15	23	12	32	17	*	*	28	14
10:30	34	14	29	10	*	*	32	12
10:45	26	6	39	8	*	*	32	7
11:00	29	12	34	12	*	*	32	12
11:15	30	6	28	3	*	*	29	4
11:30	41	13	32	11	*	*	36	12
11:45	29	3	36	3	*	*	32	3
Total	1030	1699	1037	1714	0	0	1031	1703
Combined Total	2729		2751		0		2734	
Peak	08:30	05:00	07:45	05:00			08:00	05:00
Vol.	232	259	232	244			228	251
P.H.F.	0.921	0.863	0.906	0.924			0.919	0.896
ADT		ADT 2,740	AADT 2,740					

Accurate Counts
978-664-2565

Location : Marathon Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 5864

Site Code: 14720005
147200V5

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	21	11	*	16	*	*	16 
01:00	*	*	4	6	*	5	*	*	5 
02:00	*	*	1	0	*	0	*	*	0
03:00	*	*	1	3	*	2	*	*	2 
04:00	*	*	10	7	*	8	*	*	8 
05:00	*	*	39	28	*	34	*	*	34 
06:00	*	*	104	111	*	108	*	*	108 
07:00	*	*	193	204	*	198	*	*	198 
08:00	*	*	226	232	*	229	*	*	229 
09:00	*	*	183	167	*	175	*	*	175 
10:00	*	*	119	138	*	128	*	*	128 
11:00	*	*	129	130	*	130	*	*	130 
12:00 PM	*	*	130	130	*	130	*	*	130 
01:00	*	*	132	154	*	143	*	*	143 
02:00	*	*	148	151	*	150	*	*	150 
03:00	*	*	181	175	*	178	*	*	178 
04:00	*	*	202	214	*	208	*	*	208 
05:00	*	*	259	244	*	252	*	*	252 
06:00	*	*	215	221	*	218	*	*	218 
07:00	*	*	152	150	*	151	*	*	151 
08:00	*	*	114	122	*	118	*	*	118 
09:00	*	*	82	73	*	78	*	*	78 
10:00	*	*	50	51	*	50	*	*	50 
11:00	*	*	34	29	*	32	*	*	32 
Day Total	0	0	2729	2751	0	2741	0	0	2741
% Avg. WkDay	0.0%	0.0%	99.6%	100.4%	0.0%				
% Avg. Week	0.0%	0.0%	99.6%	100.4%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			226	232		229			229
PM Peak			17:00	17:00		17:00			17:00
Vol.			259	244		252			252
Grand Total	0	0	2729	2751	0	2741	0	0	2741
ADT	ADT 2,740		AADT 2,740						

Site Code: 14720005
147200S5

[illegible]

Accurate Counts 978-664-2565

Location : Marathon Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 5864
Northbound

Site Code: 14720005
147200S5

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	999	Total	Pace Speed	Number in Pace
5/27/10	2	2	3	4	0	0	0	0	0	0	0	0	0	0	0	11	19-28	8
01:00	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	6	18-27	5
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3	13-22	2
04:00	0	2	3	1	1	0	0	0	0	0	0	0	0	0	0	7	14-23	5
05:00	0	2	5	14	6	1	0	0	0	0	0	0	0	0	0	28	22-31	20
06:00	0	3	36	52	17	3	0	0	0	0	0	0	0	0	0	111	21-30	88
07:00	2	8	77	99	14	4	0	0	0	0	0	0	0	0	0	204	21-30	176
08:00	13	15	88	98	18	0	0	0	0	0	0	0	0	0	0	232	21-30	186
09:00	1	13	73	70	10	0	0	0	0	0	0	0	0	0	0	167	21-30	143
10:00	9	23	64	36	6	0	0	0	0	0	0	0	0	0	0	138	21-30	100
11:00	7	24	62	35	2	0	0	0	0	0	0	0	0	0	0	130	21-30	97
12 PM	7	17	58	41	7	0	0	0	0	0	0	0	0	0	0	130	21-30	99
13:00	3	18	81	47	5	0	0	0	0	0	0	0	0	0	0	154	21-30	128
14:00	3	9	71	61	7	0	0	0	0	0	0	0	0	0	0	151	21-30	132
15:00	5	18	78	57	16	1	0	0	0	0	0	0	0	0	0	175	21-30	135
16:00	6	9	103	84	11	1	0	0	0	0	0	0	0	0	0	214	21-30	187
17:00	5	14	100	101	22	2	0	0	0	0	0	0	0	0	0	244	21-30	201
18:00	7	15	108	76	15	0	0	0	0	0	0	0	0	0	0	221	21-30	184
19:00	7	17	79	42	5	0	0	0	0	0	0	0	0	0	0	150	21-30	121
20:00	5	19	56	41	1	0	0	0	0	0	0	0	0	0	0	122	21-30	97
21:00	0	5	31	34	3	0	0	0	0	0	0	0	0	0	0	73	21-30	65
22:00	0	2	27	15	5	1	1	0	0	0	0	0	0	0	0	51	21-30	42
23:00	3	1	10	11	3	1	0	0	0	0	0	0	0	0	0	29	21-30	21
Total	85	237	1217	1021	176	14	1	0	0	0	0	0	0	0	0	2751		
Percent	3.1%	8.6%	44.2%	37.1%	6.4%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	11:00	08:00	07:00	08:00	07:00											08:00	
Vol.	13	24	88	99	18	4											232	
PM Peak	12:00	20:00	18:00	17:00	17:00	17:00	22:00										17:00	
Vol.	7	19	108	101	22	2	1										244	
Total	163	430	2284	2115	453	33	2	0	0	0	0	0	0	0	0	5480		
Percent	3.0%	7.8%	41.7%	38.6%	8.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 21 MPH
50th Percentile : 25 MPH
85th Percentile : 30 MPH
95th Percentile : 33 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 4399
Percent in Pace : 80.3%
Number of Vehicles > 20 MPH : 4887
Percent of Vehicles > 20 MPH : 89.2%
Mean Speed(Average) : 25 MPH

Accurate Counts

978-664-2565

Page 1

Location : Cleveland Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 119













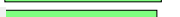











Site Code: 14720006
147200V6

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	6	40	7	36	*	*	6	38
12:15	5	31	7	33	*	*	6	32
12:30	3	36	2	43	*	*	2	40
12:45	1	40	1	40	*	*	1	40
01:00	2	39	4	42	*	*	3	40
01:15	1	39	2	31	*	*	2	35
01:30	1	30	2	35	*	*	2	32
01:45	2	43	1	33	*	*	2	38
02:00	1	38	1	38	*	*	1	38
02:15	3	40	2	39	*	*	2	40
02:30	2	52	2	46	*	*	2	49
02:45	1	38	3	45	*	*	2	42
03:00	0	50	1	49	*	*	0	50
03:15	0	46	3	36	*	*	2	41
03:30	1	50	0	43	*	*	0	46
03:45	0	61	0	61	*	*	0	61
04:00	2	49	3	83	*	*	2	66
04:15	3	49	1	48	*	*	2	48
04:30	2	61	2	55	*	*	2	58
04:45	9	56	1	45	*	*	5	50
05:00	3	56	4	54	*	*	4	55
05:15	7	57	6	67	*	*	6	62
05:30	8	42	12	49	*	*	10	46
05:45	13	50	10	50	*	*	12	50
06:00	12	54	18	62	*	*	15	58
06:15	20	52	22	51	*	*	21	52
06:30	30	46	26	41	*	*	28	44
06:45	51	42	46	48	*	*	48	45
07:00	35	37	44	53	*	*	40	45
07:15	40	31	34	57	*	*	37	44
07:30	54	34	35	48	*	*	44	41
07:45	66	35	67	32	*	*	66	34
08:00	70	42	67	36	*	*	68	39
08:15	76	36	63	19	*	*	70	28
08:30	62	28	52	31	*	*	57	30
08:45	55	32	42	35	*	*	48	34
09:00	35	14	30	22	*	*	32	18
09:15	34	27	38	28	*	*	36	28
09:30	34	21	39	24	*	*	36	22
09:45	45	23	31	22	*	*	38	22
10:00	30	19	33	19	*	*	32	19
10:15	28	23	41	15	*	*	34	19
10:30	28	18	32	9	*	*	30	14
10:45	26	8	47	9	*	*	36	8
11:00	37	14	29	13	*	*	33	14
11:15	30	12	35	7	*	*	32	10
11:30	29	14	27	4	*	*	28	9
11:45	35	11	27	4	*	*	31	8
Total	1038	1766	1002	1790	0	0	1016	1782
Combined Total	2804		2792		0		2798	
Peak	07:45	04:30	07:45	03:45			07:45	03:45
Vol.	274	230	249	247			261	233
P.H.F.	0.901	0.943	0.929	0.744			0.932	0.883
ADT		ADT 2,798	AADT 2,798					

Accurate Counts
978-664-2565

Location : Cleveland Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 119

Site Code: 14720006
147200V6

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	15	17	*	16	*	*	16 
01:00	*	*	6	9	*	8	*	*	8 
02:00	*	*	7	8	*	8	*	*	8 
03:00	*	*	1	4	*	2	*	*	2 
04:00	*	*	16	7	*	12	*	*	12 
05:00	*	*	31	32	*	32	*	*	32 
06:00	*	*	113	112	*	112	*	*	112 
07:00	*	*	195	180	*	188	*	*	188 
08:00	*	*	263	224	*	244	*	*	244 
09:00	*	*	148	138	*	143	*	*	143 
10:00	*	*	112	153	*	132	*	*	132 
11:00	*	*	131	118	*	124	*	*	124 
12:00 PM	*	*	147	152	*	150	*	*	150 
01:00	*	*	151	141	*	146	*	*	146 
02:00	*	*	168	168	*	168	*	*	168 
03:00	*	*	207	189	*	198	*	*	198 
04:00	*	*	215	231	*	223	*	*	223 
05:00	*	*	205	220	*	212	*	*	212 
06:00	*	*	194	202	*	198	*	*	198 
07:00	*	*	137	190	*	164	*	*	164 
08:00	*	*	138	121	*	130	*	*	130 
09:00	*	*	85	96	*	90	*	*	90 
10:00	*	*	68	52	*	60	*	*	60 
11:00	*	*	51	28	*	40	*	*	40 
Day Total	0	0	2804	2792	0	2800	0	0	2800
% Avg. WkDay	0.0%	0.0%	100.1%	99.7%	0.0%				
% Avg. Week	0.0%	0.0%	100.1%	99.7%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			263	224		244			244
PM Peak			16:00	16:00		16:00			16:00
Vol.			215	231		223			223
Grand Total	0	0	2804	2792	0	2800	0	0	2800
ADT	ADT 2,798		AADT 2,798						

978-664-2565

Southbound
Start

147200S6

Percent	6.1%	8.4%	35.0%	36.9%	12.1%	1.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AM Peak	08:00	08:00	08:00	08:00	07:00	06:00	11:00	08:00						08:00
Vol.	27	17	78	100	38	6	2	1						263
PM Peak	19:00	18:00	17:00	16:00	15:00	19:00	13:00							16:00
Vol.	14	23	90	93	30	3	1							215

Accurate Counts 978-664-2565

Location : Cleveland Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 119
Southbound

Site Code: 14720006
147200S6

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	999	Total	Pace Speed	Number in Pace
5/27/10	0	0	6	6	4	1	0	0	0	0	0	0	0	0	0	17	21-30	12
01:00	0	0	4	3	2	0	0	0	0	0	0	0	0	0	0	9	19-28	7
02:00	1	0	2	2	3	0	0	0	0	0	0	0	0	0	0	8	24-33	7
03:00	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	4	17-26	3
04:00	2	1	1	2	1	0	0	0	0	0	0	0	0	0	0	7	18-27	4
05:00	2	0	7	8	9	5	1	0	0	0	0	0	0	0	0	32	24-33	18
06:00	7	9	17	49	27	2	1	0	0	0	0	0	0	0	0	112	26-35	76
07:00	10	16	63	64	22	5	0	0	0	0	0	0	0	0	0	180	21-30	127
08:00	25	27	95	67	7	2	1	0	0	0	0	0	0	0	0	224	21-30	162
09:00	11	13	50	44	18	2	0	0	0	0	0	0	0	0	0	138	21-30	94
10:00	11	20	61	49	12	0	0	0	0	0	0	0	0	0	0	153	21-30	110
11:00	6	14	55	38	5	0	0	0	0	0	0	0	0	0	0	118	21-30	93
12 PM	15	17	53	51	15	1	0	0	0	0	0	0	0	0	0	152	21-30	104
13:00	10	15	58	47	8	3	0	0	0	0	0	0	0	0	0	141	21-30	105
14:00	7	19	69	63	8	2	0	0	0	0	0	0	0	0	0	168	21-30	132
15:00	1	15	90	60	20	3	0	0	0	0	0	0	0	0	0	189	21-30	150
16:00	22	23	89	72	20	5	0	0	0	0	0	0	0	0	0	231	21-30	161
17:00	12	27	85	84	11	0	1	0	0	0	0	0	0	0	0	220	21-30	169
18:00	8	31	98	49	16	0	0	0	0	0	0	0	0	0	0	202	21-30	147
19:00	12	22	90	55	11	0	0	0	0	0	0	0	0	0	0	190	21-30	145
20:00	6	17	52	42	4	0	0	0	0	0	0	0	0	0	0	121	21-30	94
21:00	4	16	38	32	6	0	0	0	0	0	0	0	0	0	0	96	21-30	70
22:00	3	3	18	19	6	1	2	0	0	0	0	0	0	0	0	52	21-30	37
23:00	0	5	7	8	7	1	0	0	0	0	0	0	0	0	0	28	23-32	17
Total	175	311	1109	915	242	34	6	0	0	0	0	0	0	0	0	2792		
Percent	6.3%	11.1%	39.7%	32.8%	8.7%	1.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	06:00	05:00	05:00										08:00	
Vol.	25	27	95	67	27	5	1										224	
PM Peak	16:00	18:00	18:00	17:00	15:00	16:00	22:00										16:00	
Vol.	22	31	98	84	20	5	2										231	
Total	346	546	2091	1951	581	71	9	1	0	0	0	0	0	0	0	5596		
Percent	6.2%	9.8%	37.4%	34.9%	10.4%	1.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 20 MPH
50th Percentile : 25 MPH
85th Percentile : 30 MPH
95th Percentile : 34 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 4042
Percent in Pace : 72.2%
Number of Vehicles > 20 MPH : 4704
Percent of Vehicles > 20 MPH : 84.1%
Mean Speed(Average) : 25 MPH

Accurate Counts
978-664-2565

Location : Brooks Avenue South of
Location : Lake Street
City/State: Arlington, MA
Counter : 2567

Site Code: 14720007
147200V7

Start Time	26-May-10 Wed	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	9			0	13				
12:15		5	18			0	5				
12:30		0	16			0	2				
12:45		1	14	11	57	0	14	0	34	11	91
01:00		2	20			0	7				
01:15		0	7			0	7				
01:30		0	12			0	6				
01:45		0	26	2	65	0	4	0	24	2	89
02:00		0	38			1	8				
02:15		0	18			0	15				
02:30		1	21			0	7				
02:45		0	23	1	100	0	14	1	44	2	144
03:00		0	15			0	9				
03:15		1	21			0	8				
03:30		1	27			0	12				
03:45		1	30	3	93	0	12	0	41	3	134
04:00		0	29			0	11				
04:15		0	43			0	11				
04:30		0	49			0	9				
04:45		1	39	1	160	0	12	0	43	1	203
05:00		2	48			1	18				
05:15		0	32			0	16				
05:30		2	38			3	32				
05:45		4	38	8	156	5	10	9	76	17	232
06:00		6	33			1	10				
06:15		3	45			2	12				
06:30		8	35			7	12				
06:45		16	49	33	162	10	10	20	44	53	206
07:00		16	26			21	4				
07:15		27	21			32	7				
07:30		26	22			68	14				
07:45		34	17	103	86	69	3	190	28	293	114
08:00		38	17			49	3				
08:15		46	13			39	2				
08:30		41	14			61	1				
08:45		30	18	155	62	41	4	190	10	345	72
09:00		24	16			20	2				
09:15		16	11			14	2				
09:30		20	8			20	1				
09:45		16	6	76	41	12	3	66	8	142	49
10:00		10	11			5	3				
10:15		10	13			5	5				
10:30		10	10			7	0				
10:45		18	3	48	37	6	1	23	9	71	46
11:00		8	2			2	2				
11:15		10	7			8	0				
11:30		12	0			8	0				
11:45		3	4	33	13	1	3	19	5	52	18
Total		474	1032			518	366			992	1398
Percent		31.5%	68.5%			58.6%	41.4%			41.5%	58.5%

Accurate Counts **978-664-2565**

Location : Brooks Avenue South of
Location : Lake Street
City/State: Arlington, MA
Counter : 2567

Site Code: 14720007
147200V7

Start Time	27-May-10 Thu	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	18			1	2				
12:15		1	18			1	6				
12:30		2	24			0	13				
12:45		1	18	7	78	0	7	2	28	9	106
01:00		1	13			1	12				
01:15		0	19			0	9				
01:30		0	19			0	5				
01:45		0	30	1	81	0	8	1	34	2	115
02:00		0	31			0	8				
02:15		1	15			0	4				
02:30		0	20			0	5				
02:45		0	27	1	93	0	8	0	25	1	118
03:00		1	12			0	12				
03:15		0	23			0	16				
03:30		0	30			0	8				
03:45		0	21	1	86	0	11	0	47	1	133
04:00		0	36			0	10				
04:15		1	31			0	11				
04:30		0	32			1	13				
04:45		0	34	1	133	0	16	1	50	2	183
05:00		1	33			1	17				
05:15		1	32			1	13				
05:30		0	33			0	15				
05:45		2	24	4	122	3	20	5	65	9	187
06:00		7	30			2	10				
06:15		8	49			4	20				
06:30		5	40			8	15				
06:45		2	46	22	165	9	13	23	58	45	223
07:00		17	31			19	4				
07:15		27	28			38	7				
07:30		26	15			55	9				
07:45		26	11	96	85	70	7	182	27	278	112
08:00		33	18			58	8				
08:15		35	13			64	7				
08:30		33	13			50	5				
08:45		40	10	141	54	41	2	213	22	354	76
09:00		21	11			20	2				
09:15		18	8			12	2				
09:30		16	9			9	4				
09:45		6	9	61	37	9	2	50	10	111	47
10:00		15	16			5	3				
10:15		15	6			11	4				
10:30		9	14			7	2				
10:45		8	4	47	40	9	1	32	10	79	50
11:00		14	7			6	2				
11:15		12	4			3	2				
11:30		11	5			5	1				
11:45		16	2	53	18	6	0	20	5	73	23
Total		435	992			529	381			964	1373
Percent		30.5%	69.5%			58.1%	41.9%			41.2%	58.8%
Grand Total		909	2024			1047	747			1956	2771
Percent		31.0%	69.0%			58.4%	41.6%			41.4%	58.6%
ADT		ADT 2,364				AADT 2,364					

Accurate Counts
978-664-2565

Location : Brooks Avenue South of
Location : Lake Street
City/State: Arlington, MA
Counter : 2567

Site Code: 14720007
147200V7

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	*	*	*	*	11	0	7	2	*	*	*	*	*	*	9	1
01:00	*	*	*	*	2	0	1	1	*	*	*	*	*	*	2	0
02:00	*	*	*	*	1	1	1	0	*	*	*	*	*	*	1	0
03:00	*	*	*	*	3	0	1	0	*	*	*	*	*	*	2	0
04:00	*	*	*	*	1	0	1	1	*	*	*	*	*	*	1	0
05:00	*	*	*	*	8	9	4	5	*	*	*	*	*	*	6	7
06:00	*	*	*	*	33	20	22	23	*	*	*	*	*	*	28	22
07:00	*	*	*	*	103	190	96	182	*	*	*	*	*	*	100	186
08:00	*	*	*	*	155	190	141	213	*	*	*	*	*	*	148	202
09:00	*	*	*	*	76	66	61	50	*	*	*	*	*	*	68	58
10:00	*	*	*	*	48	23	47	32	*	*	*	*	*	*	48	28
11:00	*	*	*	*	33	19	53	20	*	*	*	*	*	*	43	20
12:00 PM	*	*	*	*	57	34	78	28	*	*	*	*	*	*	68	31
01:00	*	*	*	*	65	24	81	34	*	*	*	*	*	*	73	29
02:00	*	*	*	*	100	44	93	25	*	*	*	*	*	*	96	34
03:00	*	*	*	*	93	41	86	47	*	*	*	*	*	*	90	44
04:00	*	*	*	*	160	43	133	50	*	*	*	*	*	*	146	46
05:00	*	*	*	*	156	76	122	65	*	*	*	*	*	*	139	70
06:00	*	*	*	*	162	44	165	58	*	*	*	*	*	*	164	51
07:00	*	*	*	*	86	28	85	27	*	*	*	*	*	*	86	28
08:00	*	*	*	*	62	10	54	22	*	*	*	*	*	*	58	16
09:00	*	*	*	*	41	8	37	10	*	*	*	*	*	*	39	9
10:00	*	*	*	*	37	9	40	10	*	*	*	*	*	*	38	10
11:00	*	*	*	*	13	5	18	5	*	*	*	*	*	*	16	5
Lane	0	0	0	0	1506	884	1427	910	0	0	0	0	0	0	1469	897
Day	0	0	0	0	2390		2337		0	0	0	0	0	0	2366	
AM Peak					08:00	07:00	08:00	08:00							08:00	08:00
Vol.					155	190	141	213							148	202
PM Peak					18:00	17:00	18:00	17:00							18:00	17:00
Vol.					162	76	165	65							164	70

Comb. Total	0	0	2390	2337	0	0	0	2366
ADT	ADT 2,364		AADT 2,364					

Site Code: 14720007
147200S7

[illegible]

Accurate Counts 978-664-2565

Location : Brooks Avenue South of
Location : Lake Street
City/State: Arlington, MA
Counter : 2567
Southbound

Site Code: 14720007
147200S7

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	4	1	1	1	0	0	0	0	0	0	0	0	0	7	16-25	5
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17-26	1
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17-26	1
05:00	1	2	0	1	0	0	0	0	0	0	0	0	0	0	4	8-17	3
06:00	2	11	6	3	0	0	0	0	0	0	0	0	0	0	22	14-23	17
07:00	29	27	23	14	2	1	0	0	0	0	0	0	0	0	96	16-25	50
08:00	70	47	21	3	0	0	0	0	0	0	0	0	0	0	141	12-21	68
09:00	14	30	11	6	0	0	0	0	0	0	0	0	0	0	61	16-25	41
10:00	14	22	8	3	0	0	0	0	0	0	0	0	0	0	47	14-23	30
11:00	13	20	10	9	1	0	0	0	0	0	0	0	0	0	53	16-25	30
12 PM	31	31	14	2	0	0	0	0	0	0	0	0	0	0	78	15-24	46
13:00	34	26	19	1	1	0	0	0	0	0	0	0	0	0	81	16-25	45
14:00	54	32	6	0	1	0	0	0	0	0	0	0	0	0	93	11-20	47
15:00	30	48	5	2	1	0	0	0	0	0	0	0	0	0	86	11-20	58
16:00	42	78	9	4	0	0	0	0	0	0	0	0	0	0	133	11-20	93
17:00	33	75	12	2	0	0	0	0	0	0	0	0	0	0	122	13-22	90
18:00	37	100	23	4	1	0	0	0	0	0	0	0	0	0	165	16-25	123
19:00	17	48	12	6	2	0	0	0	0	0	0	0	0	0	85	14-23	60
20:00	19	17	11	7	0	0	0	0	0	0	0	0	0	0	54	16-25	28
21:00	9	19	5	4	0	0	0	0	0	0	0	0	0	0	37	11-20	24
22:00	8	19	7	5	1	0	0	0	0	0	0	0	0	0	40	13-22	26
23:00	4	6	3	5	0	0	0	0	0	0	0	0	0	0	18	11-20	10
Total	461	663	207	84	11	1	0	0	0	0	0	0	0	0	1427		
Percent	32.3%	46.5%	14.5%	5.9%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	07:00	07:00	07:00										08:00	
Vol.	70	47	23	14	2	1										141	
PM Peak	14:00	18:00	18:00	20:00	19:00											18:00	
Vol.	54	100	23	7	2											165	
Total	1038	1318	384	161	30	2	0	0	0	0	0	0	0	0	2933		
Percent	35.4%	44.9%	13.1%	5.5%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 7 MPH
50th Percentile : 17 MPH
85th Percentile : 22 MPH
95th Percentile : 27 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 1702
Percent in Pace : 58.0%
Number of Vehicles > 20 MPH : 577
Percent of Vehicles > 20 MPH : 19.7%
Mean Speed(Average) : 16 MPH

Site Code: 14720007
147200S7

[illegible]

Accurate Counts 978-664-2565

Location : Brooks Avenue South of
Location : Lake Street
City/State: Arlington, MA
Counter : 2567
Northbound

Site Code: 14720007
147200S7

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	12-21	1
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17-26	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
05:00	1	0	0	2	1	1	0	0	0	0	0	0	0	0	5	26-35	3
06:00	1	1	6	13	2	0	0	0	0	0	0	0	0	0	23	21-30	19
07:00	14	29	79	49	9	1	1	0	0	0	0	0	0	0	182	21-30	128
08:00	41	54	71	35	12	0	0	0	0	0	0	0	0	0	213	16-25	125
09:00	6	5	17	18	4	0	0	0	0	0	0	0	0	0	50	21-30	35
10:00	2	6	9	12	3	0	0	0	0	0	0	0	0	0	32	20-29	21
11:00	0	4	9	6	1	0	0	0	0	0	0	0	0	0	20	17-26	15
12 PM	10	3	9	6	0	0	0	0	0	0	0	0	0	0	28	18-27	15
13:00	7	7	13	7	0	0	0	0	0	0	0	0	0	0	34	18-27	22
14:00	5	7	8	5	0	0	0	0	0	0	0	0	0	0	25	14-23	15
15:00	7	10	7	19	4	0	0	0	0	0	0	0	0	0	47	21-30	26
16:00	7	3	17	19	3	1	0	0	0	0	0	0	0	0	50	21-30	36
17:00	8	10	17	21	9	0	0	0	0	0	0	0	0	0	65	21-30	38
18:00	6	6	21	19	4	2	0	0	0	0	0	0	0	0	58	21-30	40
19:00	3	5	8	10	0	0	1	0	0	0	0	0	0	0	27	21-30	18
20:00	3	4	13	2	0	0	0	0	0	0	0	0	0	0	22	17-26	18
21:00	3	3	3	1	0	0	0	0	0	0	0	0	0	0	10	13-22	8
22:00	2	2	5	1	0	0	0	0	0	0	0	0	0	0	10	17-26	8
23:00	0	0	3	2	0	0	0	0	0	0	0	0	0	0	5	18-27	5
Total	126	159	317	248	53	5	2	0	0	0	0	0	0	0	910		
Percent	13.8%	17.5%	34.8%	27.3%	5.8%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	07:00	08:00	05:00	07:00								08:00		
Vol.	41	54	79	49	12	1	1								213		
PM Peak	12:00	15:00	18:00	17:00	17:00	18:00	19:00								17:00		
Vol.	10	10	21	21	9	2	1								65		
Total	321	291	593	472	102	11	4	0	0	0	0	0	0	0	1794		
Percent	17.9%	16.2%	33.1%	26.3%	5.7%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 13 MPH
50th Percentile : 23 MPH
85th Percentile : 29 MPH
95th Percentile : 32 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 1065
Percent in Pace : 59.4%
Number of Vehicles > 20 MPH : 1182
Percent of Vehicles > 20 MPH : 65.9%
Mean Speed(Average) : 22 MPH

Site Code: 14720007
147200S7

[illegible]

Accurate Counts 978-664-2565

Location : Brooks Avenue South of
Location : Lake Street
City/State: Arlington, MA
Counter : 2567
Southbound, Northbound

Site Code: 14720007
147200S7

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	0	4	2	1	2	0	0	0	0	0	0	0	0	0	9	13-22	6
01:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	7-16	1
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17-26	1
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
04:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	17-26	2
05:00	2	2	0	3	1	1	0	0	0	0	0	0	0	0	9	8-17	4
06:00	3	12	12	16	2	0	0	0	0	0	0	0	0	0	45	19-28	28
07:00	43	56	102	63	11	2	1	0	0	0	0	0	0	0	278	20-29	165
08:00	111	101	92	38	12	0	0	0	0	0	0	0	0	0	354	16-25	193
09:00	20	35	28	24	4	0	0	0	0	0	0	0	0	0	111	16-25	63
10:00	16	28	17	15	3	0	0	0	0	0	0	0	0	0	79	16-25	45
11:00	13	24	19	15	2	0	0	0	0	0	0	0	0	0	73	16-25	43
12 PM	41	34	23	8	0	0	0	0	0	0	0	0	0	0	106	16-25	57
13:00	41	33	32	8	1	0	0	0	0	0	0	0	0	0	115	16-25	65
14:00	59	39	14	5	1	0	0	0	0	0	0	0	0	0	118	11-20	58
15:00	37	58	12	21	5	0	0	0	0	0	0	0	0	0	133	11-20	73
16:00	49	81	26	23	3	1	0	0	0	0	0	0	0	0	183	16-25	107
17:00	41	85	29	23	9	0	0	0	0	0	0	0	0	0	187	16-25	114
18:00	43	106	44	23	5	2	0	0	0	0	0	0	0	0	223	16-25	150
19:00	20	53	20	16	2	0	1	0	0	0	0	0	0	0	112	16-25	73
20:00	22	21	24	9	0	0	0	0	0	0	0	0	0	0	76	16-25	45
21:00	12	22	8	5	0	0	0	0	0	0	0	0	0	0	47	14-23	30
22:00	10	21	12	6	1	0	0	0	0	0	0	0	0	0	50	16-25	33
23:00	4	6	6	7	0	0	0	0	0	0	0	0	0	0	23	18-27	14
Total	587	822	524	332	64	6	2	0	0	0	0	0	0	0	2337		
Percent	25.1%	35.2%	22.4%	14.2%	2.7%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	07:00	08:00	07:00	07:00									08:00	
Vol.	111	101	102	63	12	2	1									354	
PM Peak	14:00	18:00	18:00	16:00	17:00	18:00	19:00									18:00	
Vol.	59	106	44	23	9	2	1									223	
Total	1359	1609	977	633	132	13	4	0	0	0	0	0	0	0	4727		
Percent	28.7%	34.0%	20.7%	13.4%	2.8%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 8 MPH
50th Percentile : 19 MPH
85th Percentile : 26 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 2586
Percent in Pace : 54.7%
Number of Vehicles > 20 MPH : 1759
Percent of Vehicles > 20 MPH : 37.2%
Mean Speed(Average) : 18 MPH

Accurate Counts
978-664-2565

Location : Lake Street West of
Location : Freeman Street
City/State: Arlington, MA
Counter : 16428

Site Code: 14720008
147200V8

Start Time	26-May-10 Wed	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	48			12	69				
12:15		3	56			6	75				
12:30		3	51			13	79				
12:45		3	59	13	214	3	66	34	289	47	503
01:00		1	44			5	67				
01:15		4	54			1	57				
01:30		2	41			1	76				
01:45		5	52	12	191	1	70	8	270	20	461
02:00		2	62			0	63				
02:15		1	52			1	83				
02:30		5	63			3	88				
02:45		1	61	9	238	2	106	6	340	15	578
03:00		2	54			0	101				
03:15		5	55			1	117				
03:30		2	63			2	119				
03:45		1	66	10	238	1	130	4	467	14	705
04:00		1	83			2	123				
04:15		2	67			2	117				
04:30		3	54			2	104				
04:45		3	71	9	275	2	142	8	486	17	761
05:00		6	66			10	112				
05:15		6	100			6	127				
05:30		11	72			12	140				
05:45		20	70	43	308	13	112	41	491	84	799
06:00		22	71			15	126				
06:15		37	71			25	135				
06:30		59	73			41	125				
06:45		74	55	192	270	66	124	147	510	339	780
07:00		102	64			80	129				
07:15		118	57			98	110				
07:30		106	59			105	101				
07:45		69	45	395	225	88	80	371	420	766	645
08:00		76	38			73	87				
08:15		50	51			93	75				
08:30		86	39			82	47				
08:45		106	38	318	166	89	51	337	260	655	426
09:00		78	43			116	41				
09:15		74	28			105	50				
09:30		86	29			67	43				
09:45		64	18	302	118	102	33	390	167	692	285
10:00		57	25			78	33				
10:15		50	22			67	38				
10:30		51	23			60	27				
10:45		48	25	206	95	77	14	282	112	488	207
11:00		42	9			67	14				
11:15		42	18			71	21				
11:30		49	13			74	22				
11:45		61	15	194	55	58	19	270	76	464	131
Total		1703	2393			1898	3888			3601	6281
Percent		41.6%	58.4%			32.8%	67.2%			36.4%	63.6%

Accurate Counts
978-664-2565

Location : Lake Street West of
Location : Freeman Street
City/State: Arlington, MA
Counter : 16428

Site Code: 14720008
147200V8

Start Time	27-May-10 Thu	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	53			15	75				
12:15		6	52			11	72				
12:30		2	45			7	71				
12:45		5	50	17	200	4	64	37	282	54	482
01:00		8	55			5	58				
01:15		3	47			1	59				
01:30		5	54			5	67				
01:45		2	42	18	198	2	84	13	268	31	466
02:00		5	61			2	68				
02:15		2	48			0	89				
02:30		3	61			1	82				
02:45		4	54	14	224	3	96	6	335	20	559
03:00		3	59			2	87				
03:15		4	58			1	120				
03:30		2	58			2	117				
03:45		1	77	10	252	1	113	6	437	16	689
04:00		2	75			3	122				
04:15		3	74			2	138				
04:30		2	55			3	112				
04:45		3	74	10	278	0	125	8	497	18	775
05:00		3	67			3	128				
05:15		7	78			4	115				
05:30		13	76			7	131				
05:45		15	75	38	296	9	103	23	477	61	773
06:00		24	67			20	132				
06:15		39	75			38	124				
06:30		56	72			45	117				
06:45		75	67	194	281	59	138	162	511	356	792
07:00		94	57			93	126				
07:15		117	54			95	109				
07:30		117	55			90	99				
07:45		91	45	419	211	93	80	371	414	790	625
08:00		77	42			94	63				
08:15		83	47			94	78				
08:30		108	37			111	68				
08:45		103	37	371	163	118	61	417	270	788	433
09:00		91	35			126	57				
09:15		75	47			84	54				
09:30		73	36			97	44				
09:45		58	26	297	144	88	45	395	200	692	344
10:00		58	25			88	35				
10:15		45	25			64	42				
10:30		44	19			65	29				
10:45		42	22	189	91	68	26	285	132	474	223
11:00		52	13			66	31				
11:15		60	9			56	23				
11:30		42	3			50	22				
11:45		46	9	200	34	62	9	234	85	434	119
Total		1777	2372			1957	3908			3734	6280
Percent		42.8%	57.2%			33.4%	66.6%			37.3%	62.7%
Grand Total		3480	4765			3855	7796			7335	12561
Percent		42.2%	57.8%			33.1%	66.9%			36.9%	63.1%

ADT

ADT 9,948

AADT 9,948

Accurate Counts
978-664-2565

Location : Lake Street West of
Location : Freeman Street
City/State: Arlington, MA
Counter : 16428

Site Code: 14720008
147200V8

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	13	34	17	37	*	*	*	*	*	*	15	36
01:00	*	*	*	*	12	8	18	13	*	*	*	*	*	*	15	10
02:00	*	*	*	*	9	6	14	6	*	*	*	*	*	*	12	6
03:00	*	*	*	*	10	4	10	6	*	*	*	*	*	*	10	5
04:00	*	*	*	*	9	8	10	8	*	*	*	*	*	*	10	8
05:00	*	*	*	*	43	41	38	23	*	*	*	*	*	*	40	32
06:00	*	*	*	*	192	147	194	162	*	*	*	*	*	*	193	154
07:00	*	*	*	*	395	371	419	371	*	*	*	*	*	*	407	371
08:00	*	*	*	*	318	337	371	417	*	*	*	*	*	*	344	377
09:00	*	*	*	*	302	390	297	395	*	*	*	*	*	*	300	392
10:00	*	*	*	*	206	282	189	285	*	*	*	*	*	*	198	284
11:00	*	*	*	*	194	270	200	234	*	*	*	*	*	*	197	252
12:00 PM	*	*	*	*	214	289	200	282	*	*	*	*	*	*	207	286
01:00	*	*	*	*	191	270	198	268	*	*	*	*	*	*	194	269
02:00	*	*	*	*	238	340	224	335	*	*	*	*	*	*	231	338
03:00	*	*	*	*	238	467	252	437	*	*	*	*	*	*	245	452
04:00	*	*	*	*	275	486	278	497	*	*	*	*	*	*	276	492
05:00	*	*	*	*	308	491	296	477	*	*	*	*	*	*	302	484
06:00	*	*	*	*	270	510	281	511	*	*	*	*	*	*	276	510
07:00	*	*	*	*	225	420	211	414	*	*	*	*	*	*	218	417
08:00	*	*	*	*	166	260	163	270	*	*	*	*	*	*	164	265
09:00	*	*	*	*	118	167	144	200	*	*	*	*	*	*	131	184
10:00	*	*	*	*	95	112	91	132	*	*	*	*	*	*	93	122
11:00	*	*	*	*	55	76	34	85	*	*	*	*	*	*	44	80
Lane	0	0	0	0	4096	5786	4149	5865	0	0	0	0	0	0	4122	5826
Day	0		0		9882		10014		0		0		0		9948	
AM Peak					07:00	09:00	07:00	08:00							07:00	09:00
Vol.					395	390	419	417							407	392
PM Peak					17:00	18:00	17:00	18:00							17:00	18:00
Vol.					308	510	296	511							302	510

Comb. Total	0	0	9882	10014	0	0	0	9948
ADT	ADT 9,948	AADT 9,948						

Accurate Counts **978-664-2565**

Location : Lake Street West of
Location : Freeman Street
City/State: Arlington, MA
Counter : 16428
Westbound

Site Code: 14720008
147200S8

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	0	3	8	6	0	0	0	0	0	0	0	0	0	17	23-32	14
01:00	0	0	5	8	4	0	1	0	0	0	0	0	0	0	18	21-30	13
02:00	0	0	2	6	6	0	0	0	0	0	0	0	0	0	14	24-33	12
03:00	0	1	2	4	2	1	0	0	0	0	0	0	0	0	10	23-32	8
04:00	0	0	2	4	3	1	0	0	0	0	0	0	0	0	10	24-33	9
05:00	2	3	3	14	14	2	0	0	0	0	0	0	0	0	38	26-35	28
06:00	6	3	32	96	54	2	1	0	0	0	0	0	0	0	194	26-35	150
07:00	67	22	143	158	27	2	0	0	0	0	0	0	0	0	419	21-30	301
08:00	209	30	87	40	5	0	0	0	0	0	0	0	0	0	371	1-10	140
09:00	13	9	76	155	40	4	0	0	0	0	0	0	0	0	297	21-30	231
10:00	12	5	51	90	24	7	0	0	0	0	0	0	0	0	189	21-30	141
11:00	4	7	52	97	34	6	0	0	0	0	0	0	0	0	200	21-30	149
12 PM	12	6	57	82	42	1	0	0	0	0	0	0	0	0	200	21-30	139
13:00	8	5	51	95	36	3	0	0	0	0	0	0	0	0	198	21-30	146
14:00	15	11	62	97	38	1	0	0	0	0	0	0	0	0	224	21-30	159
15:00	12	7	66	131	35	1	0	0	0	0	0	0	0	0	252	21-30	197
16:00	22	14	99	115	26	2	0	0	0	0	0	0	0	0	278	21-30	214
17:00	22	7	90	144	30	3	0	0	0	0	0	0	0	0	296	21-30	234
18:00	31	6	99	108	32	5	0	0	0	0	0	0	0	0	281	21-30	207
19:00	9	7	56	110	26	3	0	0	0	0	0	0	0	0	211	21-30	166
20:00	5	8	49	80	20	1	0	0	0	0	0	0	0	0	163	21-30	129
21:00	4	3	46	68	20	2	1	0	0	0	0	0	0	0	144	21-30	114
22:00	2	1	30	39	17	2	0	0	0	0	0	0	0	0	91	21-30	69
23:00	1	0	5	15	12	1	0	0	0	0	0	0	0	0	34	26-35	27
Total	456	155	1168	1764	553	50	3	0	0	0	0	0	0	0	4149		
Percent	11.0%	3.7%	28.2%	42.5%	13.3%	1.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	07:00	06:00	10:00	01:00									07:00	
Vol.	209	30	143	158	54	7	1									419	
PM Peak	18:00	16:00	16:00	17:00	12:00	18:00	21:00									17:00	
Vol.	31	14	99	144	42	5	1									296	
Total	1108	311	2101	3480	1113	119	11	2	0	0	0	0	0	0	8245		
Percent	13.4%	3.8%	25.5%	42.2%	13.5%	1.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 18 MPH
50th Percentile : 26 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 5581
Percent in Pace : 67.7%
Number of Vehicles > 20 MPH : 6826
Percent of Vehicles > 20 MPH : 82.8%
Mean Speed(Average) : 25 MPH

Site Code: 14720008
147200S8

[illegible]

Accurate Counts 978-664-2565

Location : Lake Street West of
Location : Freeman Street
City/State: Arlington, MA
Counter : 16428
Eastbound

Site Code: 14720008
147200S8

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	2	0	5	22	8	0	0	0	0	0	0	0	0	0	37	24-33	30
01:00	0	0	4	6	3	0	0	0	0	0	0	0	0	0	13	22-31	11
02:00	0	0	1	2	3	0	0	0	0	0	0	0	0	0	6	24-33	6
03:00	0	0	3	1	2	0	0	0	0	0	0	0	0	0	6	21-30	4
04:00	0	0	1	6	1	0	0	0	0	0	0	0	0	0	8	22-31	8
05:00	0	1	4	13	5	0	0	0	0	0	0	0	0	0	23	22-31	18
06:00	4	18	52	66	21	1	0	0	0	0	0	0	0	0	162	21-30	118
07:00	70	65	155	74	7	0	0	0	0	0	0	0	0	0	371	21-30	229
08:00	98	123	161	33	2	0	0	0	0	0	0	0	0	0	417	16-25	284
09:00	43	85	183	71	13	0	0	0	0	0	0	0	0	0	395	16-25	268
10:00	21	71	126	63	4	0	0	0	0	0	0	0	0	0	285	16-25	197
11:00	8	36	107	75	8	0	0	0	0	0	0	0	0	0	234	21-30	182
12 PM	27	41	149	59	6	0	0	0	0	0	0	0	0	0	282	21-30	208
13:00	12	38	142	72	4	0	0	0	0	0	0	0	0	0	268	21-30	214
14:00	41	55	164	66	8	1	0	0	0	0	0	0	0	0	335	21-30	230
15:00	137	94	149	53	4	0	0	0	0	0	0	0	0	0	437	16-25	243
16:00	330	88	66	13	0	0	0	0	0	0	0	0	0	0	497	1-10	220
17:00	239	119	92	25	2	0	0	0	0	0	0	0	0	0	477	16-25	211
18:00	142	159	172	35	3	0	0	0	0	0	0	0	0	0	511	16-25	331
19:00	106	96	170	39	2	1	0	0	0	0	0	0	0	0	414	16-25	266
20:00	12	41	143	66	8	0	0	0	0	0	0	0	0	0	270	21-30	209
21:00	12	32	95	55	6	0	0	0	0	0	0	0	0	0	200	21-30	150
22:00	5	16	61	38	12	0	0	0	0	0	0	0	0	0	132	21-30	99
23:00	6	5	25	43	6	0	0	0	0	0	0	0	0	0	85	21-30	68
Total	1315	1183	2230	996	138	3	0	0	0	0	0	0	0	0	5865		
Percent	22.4%	20.2%	38.0%	17.0%	2.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	09:00	11:00	06:00	06:00										08:00	
Vol.	98	123	183	75	21	1										417	
PM Peak	16:00	18:00	18:00	13:00	22:00	14:00										18:00	
Vol.	330	159	172	72	12	1										511	
Total	2466	2303	4469	2131	268	12	2	0	0	0	0	0	0	0	11651		
Percent	21.2%	19.8%	38.4%	18.3%	2.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 11 MPH
50th Percentile : 22 MPH
85th Percentile : 27 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 6772
Percent in Pace : 58.1%
Number of Vehicles > 20 MPH : 6882
Percent of Vehicles > 20 MPH : 59.1%
Mean Speed(Average) : 20 MPH

Accurate Counts 978-664-2565

Location : Lake Street West of
Location : Freeman Street
City/State: Arlington, MA
Counter : 16428
Westbound, Eastbound

Site Code: 14720008
147200S8

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	2	0	8	30	14	0	0	0	0	0	0	0	0	0	54	25-34	44
01:00	0	0	9	14	7	0	1	0	0	0	0	0	0	0	31	22-31	24
02:00	0	0	3	8	9	0	0	0	0	0	0	0	0	0	20	25-34	17
03:00	0	1	5	5	4	1	0	0	0	0	0	0	0	0	16	20-29	10
04:00	0	0	3	10	4	1	0	0	0	0	0	0	0	0	18	23-32	15
05:00	2	4	7	27	19	2	0	0	0	0	0	0	0	0	61	26-35	46
06:00	10	21	84	162	75	3	1	0	0	0	0	0	0	0	356	21-30	246
07:00	137	87	298	232	34	2	0	0	0	0	0	0	0	0	790	21-30	530
08:00	307	153	248	73	7	0	0	0	0	0	0	0	0	0	788	16-25	401
09:00	56	94	259	226	53	4	0	0	0	0	0	0	0	0	692	21-30	485
10:00	33	76	177	153	28	7	0	0	0	0	0	0	0	0	474	21-30	330
11:00	12	43	159	172	42	6	0	0	0	0	0	0	0	0	434	21-30	331
12 PM	39	47	206	141	48	1	0	0	0	0	0	0	0	0	482	21-30	347
13:00	20	43	193	167	40	3	0	0	0	0	0	0	0	0	466	21-30	360
14:00	56	66	226	163	46	2	0	0	0	0	0	0	0	0	559	21-30	389
15:00	149	101	215	184	39	1	0	0	0	0	0	0	0	0	689	21-30	399
16:00	352	102	165	128	26	2	0	0	0	0	0	0	0	0	775	21-30	293
17:00	261	126	182	169	32	3	0	0	0	0	0	0	0	0	773	21-30	351
18:00	173	165	271	143	35	5	0	0	0	0	0	0	0	0	792	16-25	436
19:00	115	103	226	149	28	4	0	0	0	0	0	0	0	0	625	21-30	375
20:00	17	49	192	146	28	1	0	0	0	0	0	0	0	0	433	21-30	338
21:00	16	35	141	123	26	2	1	0	0	0	0	0	0	0	344	21-30	264
22:00	7	17	91	77	29	2	0	0	0	0	0	0	0	0	223	21-30	168
23:00	7	5	30	58	18	1	0	0	0	0	0	0	0	0	119	21-30	88
Total	1771	1338	3398	2760	691	53	3	0	0	0	0	0	0	0	10014		
Percent	17.7%	13.4%	33.9%	27.6%	6.9%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	07:00	06:00	10:00	01:00									07:00	
Vol.	307	153	298	232	75	7	1									790	
PM Peak	16:00	18:00	18:00	15:00	12:00	18:00	21:00									18:00	
Vol.	352	165	271	184	48	5	1									792	
Total	3574	2614	6570	5611	1381	131	13	2	0	0	0	0	0	0	19896		
Percent	18.0%	13.1%	33.0%	28.2%	6.9%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 13 MPH
50th Percentile : 23 MPH
85th Percentile : 29 MPH
95th Percentile : 32 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 12181
Percent in Pace : 61.2%
Number of Vehicles > 20 MPH : 13708
Percent of Vehicles > 20 MPH : 68.9%
Mean Speed(Average) : 22 MPH

Accurate Counts
978-664-2565

Location : River Street South of
Location : University Street
City/State: Arlington, MA
Counter : 13865

Site Code: 14720009
147200V9

Start Time	26-May-10 Wed	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	30			1	35				
12:15		9	50			2	31				
12:30		7	42			6	35				
12:45		4	50	23	172	0	51	9	152	32	324
01:00		5	43			5	34				
01:15		4	28			1	20				
01:30		0	34			0	35				
01:45		1	58	10	163	1	44	7	133	17	296
02:00		2	42			3	46				
02:15		0	48			0	47				
02:30		1	39			0	40				
02:45		0	62	3	191	0	49	3	182	6	373
03:00		1	58			1	53				
03:15		0	50			0	55				
03:30		2	61			2	54				
03:45		1	46	4	215	0	69	3	231	7	446
04:00		5	47			1	72				
04:15		2	45			1	74				
04:30		3	52			1	69				
04:45		2	64	12	208	0	83	3	298	15	506
05:00		6	51			3	64				
05:15		4	62			3	70				
05:30		6	50			7	66				
05:45		14	53	30	216	8	67	21	267	51	483
06:00		25	47			10	50				
06:15		28	71			10	51				
06:30		47	64			13	50				
06:45		55	54	155	236	16	47	49	198	204	434
07:00		73	36			35	37				
07:15		85	52			27	42				
07:30		137	45			37	38				
07:45		96	41	391	174	43	43	142	160	533	334
08:00		97	31			38	43				
08:15		106	32			42	36				
08:30		80	29			50	26				
08:45		89	17	372	109	44	24	174	129	546	238
09:00		58	22			44	20				
09:15		72	25			38	34				
09:30		42	21			27	12				
09:45		39	26	211	94	25	13	134	79	345	173
10:00		32	17			30	14				
10:15		40	15			35	16				
10:30		43	10			29	14				
10:45		31	15	146	57	44	6	138	50	284	107
11:00		28	10			28	3				
11:15		36	12			26	11				
11:30		33	9			43	7				
11:45		40	9	137	40	38	8	135	29	272	69
Total		1494	1875			818	1908			2312	3783
Percent		44.3%	55.7%			30.0%	70.0%			37.9%	62.1%

Accurate Counts
978-664-2565

Location : River Street South of
Location : University Street
City/State: Arlington, MA
Counter : 13865

Site Code: 14720009
147200V9

Start Time	27-May-10 Thu	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		5	41			3	38				
12:15		5	45			4	52				
12:30		7	40			2	30				
12:45		3	36	20	162	5	36	14	156	34	318
01:00		3	47			1	30				
01:15		1	42			2	31				
01:30		5	52			2	45				
01:45		3	35	12	176	1	40	6	146	18	322
02:00		4	40			2	44				
02:15		0	58			1	44				
02:30		3	41			0	53				
02:45		2	54	9	193	0	58	3	199	12	392
03:00		1	64			0	46				
03:15		2	71			1	68				
03:30		1	65			0	58				
03:45		0	41	4	241	1	74	2	246	6	487
04:00		2	49			0	66				
04:15		1	63			1	76				
04:30		3	47			1	77				
04:45		5	45	11	204	1	73	3	292	14	496
05:00		2	59			3	77				
05:15		5	46			3	67				
05:30		7	74			8	62				
05:45		9	45	23	224	7	62	21	268	44	492
06:00		28	60			6	48				
06:15		22	54			14	59				
06:30		56	64			17	43				
06:45		56	64	162	242	20	51	57	201	219	443
07:00		77	50			37	57				
07:15		111	53			29	42				
07:30		110	42			42	37				
07:45		115	22	413	167	40	45	148	181	561	348
08:00		87	34			36	24				
08:15		91	28			60	29				
08:30		75	28			39	29				
08:45		75	32	328	122	58	33	193	115	521	237
09:00		62	31			35	25				
09:15		56	38			45	19				
09:30		43	19			33	18				
09:45		40	27	201	115	29	18	142	80	343	195
10:00		36	11			30	14				
10:15		41	17			32	12				
10:30		41	12			28	12				
10:45		52	11	170	51	31	12	121	50	291	101
11:00		44	10			33	20				
11:15		46	12			35	9				
11:30		39	8			29	7				
11:45		42	8	171	38	35	4	132	40	303	78
Total		1524	1935			842	1974			2366	3909
Percent		44.1%	55.9%			29.9%	70.1%			37.7%	62.3%
Grand Total		3018	3810			1660	3882			4678	7692
Percent		44.2%	55.8%			30.0%	70.0%			37.8%	62.2%

ADT

ADT 6,185

AADT 6,185

Accurate Counts
978-664-2565

Location : River Street South of
Location : University Street
City/State: Arlington, MA
Counter : 13865

Site Code: 14720009
147200V9

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	*	*	*	*	23	9	20	14	*	*	*	*	*	*	22	12
01:00	*	*	*	*	10	7	12	6	*	*	*	*	*	*	11	6
02:00	*	*	*	*	3	3	9	3	*	*	*	*	*	*	6	3
03:00	*	*	*	*	4	3	4	2	*	*	*	*	*	*	4	2
04:00	*	*	*	*	12	3	11	3	*	*	*	*	*	*	12	3
05:00	*	*	*	*	30	21	23	21	*	*	*	*	*	*	26	21
06:00	*	*	*	*	155	49	162	57	*	*	*	*	*	*	158	53
07:00	*	*	*	*	391	142	413	148	*	*	*	*	*	*	402	145
08:00	*	*	*	*	372	174	328	193	*	*	*	*	*	*	350	184
09:00	*	*	*	*	211	134	201	142	*	*	*	*	*	*	206	138
10:00	*	*	*	*	146	138	170	121	*	*	*	*	*	*	158	130
11:00	*	*	*	*	137	135	171	132	*	*	*	*	*	*	154	134
12:00 PM	*	*	*	*	172	152	162	156	*	*	*	*	*	*	167	154
01:00	*	*	*	*	163	133	176	146	*	*	*	*	*	*	170	140
02:00	*	*	*	*	191	182	193	199	*	*	*	*	*	*	192	190
03:00	*	*	*	*	215	231	241	246	*	*	*	*	*	*	228	238
04:00	*	*	*	*	208	298	204	292	*	*	*	*	*	*	206	295
05:00	*	*	*	*	216	267	224	268	*	*	*	*	*	*	220	268
06:00	*	*	*	*	236	198	242	201	*	*	*	*	*	*	239	200
07:00	*	*	*	*	174	160	167	181	*	*	*	*	*	*	170	170
08:00	*	*	*	*	109	129	122	115	*	*	*	*	*	*	116	122
09:00	*	*	*	*	94	79	115	80	*	*	*	*	*	*	104	80
10:00	*	*	*	*	57	50	51	50	*	*	*	*	*	*	54	50
11:00	*	*	*	*	40	29	38	40	*	*	*	*	*	*	39	34
Lane	0	0	0	0	3369	2726	3459	2816	0	0	0	0	0	0	3414	2772
Day	0		0		6095		6275		0		0		0		6186	
AM Peak					07:00	08:00	07:00	08:00							07:00	08:00
Vol.					391	174	413	193							402	184
PM Peak					18:00	16:00	18:00	16:00							18:00	16:00
Vol.					236	298	242	292							239	295

Comb. Total	0	0	6095	6275	0	0	0	6186
ADT	ADT 6,185		AADT 6,185					

Accurate Counts 978-664-2565

Location : River Street South of
Location : University Street
City/State: Arlington, MA
Counter : 13865
Southbound

Site Code: 14720009
147200S9

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	0	0	6	14	0	0	0	0	0	0	0	0	0	20	26-35	20
01:00	0	0	0	1	5	5	1	0	0	0	0	0	0	0	12	30-39	10
02:00	0	0	2	2	4	1	0	0	0	0	0	0	0	0	9	24-33	7
03:00	0	0	0	2	2	0	0	0	0	0	0	0	0	0	4	23-32	4
04:00	1	0	1	1	3	3	1	0	1	0	0	0	0	0	11	29-38	7
05:00	0	1	1	3	10	5	2	0	0	0	0	0	0	1	23	28-37	15
06:00	4	5	2	36	79	29	3	3	1	0	0	0	0	0	162	26-35	115
07:00	12	8	20	109	194	60	7	3	0	0	0	0	0	0	413	26-35	303
08:00	23	22	24	97	123	37	2	0	0	0	0	0	0	0	328	26-35	220
09:00	5	4	9	60	91	25	6	1	0	0	0	0	0	0	201	26-35	151
10:00	0	4	16	49	74	24	3	0	0	0	0	0	0	0	170	26-35	123
11:00	7	4	11	49	74	24	2	0	0	0	0	0	0	0	171	26-35	123
12 PM	3	2	5	54	65	27	5	1	0	0	0	0	0	0	162	26-35	119
13:00	2	10	8	56	78	17	3	2	0	0	0	0	0	0	176	26-35	134
14:00	5	8	13	66	76	22	3	0	0	0	0	0	0	0	193	26-35	142
15:00	7	8	16	76	101	29	4	0	0	0	0	0	0	0	241	26-35	177
16:00	8	2	10	32	97	48	5	2	0	0	0	0	0	0	204	31-40	145
17:00	7	4	12	74	97	27	3	0	0	0	0	0	0	0	224	26-35	171
18:00	4	7	8	55	126	38	4	0	0	0	0	0	0	0	242	26-35	181
19:00	3	6	5	42	80	26	5	0	0	0	0	0	0	0	167	26-35	122
20:00	6	3	8	46	42	15	1	1	0	0	0	0	0	0	122	26-35	88
21:00	3	0	15	43	40	12	2	0	0	0	0	0	0	0	115	26-35	83
22:00	2	0	2	17	20	8	2	0	0	0	0	0	0	0	51	26-35	37
23:00	2	2	2	10	21	1	0	0	0	0	0	0	0	0	38	26-35	31
Total	104	100	190	986	1516	483	64	13	2	0	0	0	0	1	3459		
Percent	3.0%	2.9%	5.5%	28.5%	43.8%	14.0%	1.9%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	07:00	07:00	07:00	07:00	06:00	04:00					05:00	07:00		
Vol.	23	22	24	109	194	60	7	3	1					1	413		
PM Peak	16:00	13:00	15:00	15:00	18:00	16:00	12:00	13:00							18:00		
Vol.	8	10	16	76	126	48	5	2							242		
Total	206	185	418	1821	2969	1069	137	19	2	0	1	0	0	1	6828		
Percent	3.0%	2.7%	6.1%	26.7%	43.5%	15.7%	2.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 26 MPH
50th Percentile : 32 MPH
85th Percentile : 36 MPH
95th Percentile : 40 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 4790
Percent in Pace : 70.2%
Number of Vehicles > 20 MPH : 6437
Percent of Vehicles > 20 MPH : 94.3%
Mean Speed(Average) : 31 MPH

Accurate Counts **978-664-2565**

Location : River Street South of
Location : University Street
City/State: Arlington, MA
Counter : 13865
Northbound

Site Code: 14720009
147200S9

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	0	0	2	5	6	1	0	0	0	0	0	0	0	0	14	24-33	11
01:00	0	1	0	2	2	0	1	0	0	0	0	0	0	0	6	23-32	4
02:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	19-28	3
03:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	18-27	2
04:00	0	0	0	0	2	0	0	1	0	0	0	0	0	0	3	23-32	2
05:00	2	1	1	4	5	7	1	0	0	0	0	0	0	0	21	28-37	12
06:00	7	5	1	12	25	6	1	0	0	0	0	0	0	0	57	26-35	37
07:00	11	2	11	55	55	11	3	0	0	0	0	0	0	0	148	26-35	110
08:00	28	8	22	80	46	5	3	1	0	0	0	0	0	0	193	26-35	126
09:00	9	2	16	52	53	9	1	0	0	0	0	0	0	0	142	26-35	105
10:00	2	4	14	48	48	5	0	0	0	0	0	0	0	0	121	26-35	96
11:00	8	5	18	54	39	7	1	0	0	0	0	0	0	0	132	26-35	93
12 PM	9	4	17	61	54	10	1	0	0	0	0	0	0	0	156	26-35	115
13:00	5	10	12	55	46	15	2	1	0	0	0	0	0	0	146	26-35	101
14:00	16	10	11	69	71	19	2	1	0	0	0	0	0	0	199	26-35	140
15:00	9	8	28	88	92	21	0	0	0	0	0	0	0	0	246	26-35	180
16:00	10	6	12	102	117	40	5	0	0	0	0	0	0	0	292	26-35	219
17:00	10	3	23	105	109	15	3	0	0	0	0	0	0	0	268	26-35	214
18:00	5	5	16	60	86	26	2	0	1	0	0	0	0	0	201	26-35	146
19:00	6	15	6	57	75	19	3	0	0	0	0	0	0	0	181	26-35	132
20:00	2	2	24	45	35	5	2	0	0	0	0	0	0	0	115	26-35	80
21:00	1	6	10	33	22	8	0	0	0	0	0	0	0	0	80	26-35	55
22:00	0	1	3	13	24	7	2	0	0	0	0	0	0	0	50	26-35	37
23:00	2	0	3	12	18	4	1	0	0	0	0	0	0	0	40	26-35	30
Total	142	98	250	1017	1030	240	34	4	1	0	0	0	0	0	2816		
Percent	5.0%	3.5%	8.9%	36.1%	36.6%	8.5%	1.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	07:00	07:00	07:00	04:00								08:00	
Vol.	28	8	22	80	55	11	3	1								193	
PM Peak	14:00	19:00	15:00	17:00	16:00	16:00	16:00	13:00	18:00							16:00	
Vol.	16	15	28	105	117	40	5	1	1							292	
Total	263	195	413	1888	2159	552	66	5	1	0	0	0	0	0	5542		
Percent	4.7%	3.5%	7.5%	34.1%	39.0%	10.0%	1.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 25 MPH
50th Percentile : 31 MPH
85th Percentile : 35 MPH
95th Percentile : 39 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 4047
Percent in Pace : 73.0%
Number of Vehicles > 20 MPH : 5084
Percent of Vehicles > 20 MPH : 91.7%
Mean Speed(Average) : 29 MPH

Accurate Counts 978-664-2565

Location : River Street South of
Location : University Street
City/State: Arlington, MA
Counter : 13865
Southbound, Northbound

Site Code: 14720009
147200S9

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	0	0	2	11	20	1	0	0	0	0	0	0	0	0	34	26-35	31
01:00	0	1	0	3	7	5	2	0	0	0	0	0	0	0	18	28-37	12
02:00	0	0	2	5	4	1	0	0	0	0	0	0	0	0	12	24-33	10
03:00	0	0	0	4	2	0	0	0	0	0	0	0	0	0	6	23-32	6
04:00	1	0	1	1	5	3	1	1	1	0	0	0	0	0	14	29-38	9
05:00	2	2	2	7	15	12	3	0	0	0	0	0	0	1	44	29-38	27
06:00	11	10	3	48	104	35	4	3	1	0	0	0	0	0	219	26-35	152
07:00	23	10	31	164	249	71	10	3	0	0	0	0	0	0	561	26-35	413
08:00	51	30	46	177	169	42	5	1	0	0	0	0	0	0	521	26-35	346
09:00	14	6	25	112	144	34	7	1	0	0	0	0	0	0	343	26-35	256
10:00	2	8	30	97	122	29	3	0	0	0	0	0	0	0	291	26-35	219
11:00	15	9	29	103	113	31	3	0	0	0	0	0	0	0	303	26-35	216
12 PM	12	6	22	115	119	37	6	1	0	0	0	0	0	0	318	26-35	234
13:00	7	20	20	111	124	32	5	3	0	0	0	0	0	0	322	26-35	235
14:00	21	18	24	135	147	41	5	1	0	0	0	0	0	0	392	26-35	282
15:00	16	16	44	164	193	50	4	0	0	0	0	0	0	0	487	26-35	357
16:00	18	8	22	134	214	88	10	2	0	0	0	0	0	0	496	26-35	348
17:00	17	7	35	179	206	42	6	0	0	0	0	0	0	0	492	26-35	385
18:00	9	12	24	115	212	64	6	0	1	0	0	0	0	0	443	26-35	327
19:00	9	21	11	99	155	45	8	0	0	0	0	0	0	0	348	26-35	254
20:00	8	5	32	91	77	20	3	1	0	0	0	0	0	0	237	26-35	168
21:00	4	6	25	76	62	20	2	0	0	0	0	0	0	0	195	26-35	138
22:00	2	1	5	30	44	15	4	0	0	0	0	0	0	0	101	26-35	74
23:00	4	2	5	22	39	5	1	0	0	0	0	0	0	0	78	26-35	61
Total	246	198	440	2003	2546	723	98	17	3	0	0	0	0	1	6275		
Percent	3.9%	3.2%	7.0%	31.9%	40.6%	11.5%	1.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	07:00	07:00	07:00	06:00	04:00					05:00	07:00		
Vol.	51	30	46	177	249	71	10	3	1					1	561		
PM Peak	14:00	19:00	15:00	17:00	16:00	16:00	16:00	13:00	18:00						16:00		
Vol.	21	21	44	179	214	88	10	3	1						496		
Total	469	380	831	3709	5128	1621	203	24	3	0	1	0	0	1	12370		
Percent	3.8%	3.1%	6.7%	30.0%	41.5%	13.1%	1.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 26 MPH
50th Percentile : 31 MPH
85th Percentile : 35 MPH
95th Percentile : 39 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 8837
Percent in Pace : 71.4%
Number of Vehicles > 20 MPH : 11521
Percent of Vehicles > 20 MPH : 93.1%
Mean Speed(Average) : 30 MPH

Accurate Counts
978-664-2565

Location : Bates Road South of
Location : Broadway
City/State: Arlington, MA
Counter : 131

Site Code: 14720010
14720V10

Start Time	26-May-10 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	23			7	34				
12:15		2	22			7	42				
12:30		4	31			3	36				
12:45		0	30	9	106	7	32	24	144	33	250
01:00		6	20			0	25				
01:15		0	14			2	25				
01:30		0	16			0	37				
01:45		0	28	6	78	1	41	3	128	9	206
02:00		2	28			1	36				
02:15		0	29			0	41				
02:30		0	37			0	41				
02:45		0	33	2	127	0	45	1	163	3	290
03:00		1	39			0	46				
03:15		1	33			0	44				
03:30		1	38			2	46				
03:45		0	56	3	166	0	36	2	172	5	338
04:00		1	48			2	47				
04:15		0	56			1	39				
04:30		0	58			2	37				
04:45		0	61	1	223	1	41	6	164	7	387
05:00		2	42			5	57				
05:15		2	47			1	43				
05:30		4	43			4	38				
05:45		6	52	14	184	13	47	23	185	37	369
06:00		2	33			21	43				
06:15		3	37			27	50				
06:30		5	36			40	41				
06:45		14	44	24	150	41	45	129	179	153	329
07:00		10	28			58	36				
07:15		20	26			81	35				
07:30		27	29			103	31				
07:45		28	28	85	111	77	26	319	128	404	239
08:00		29	30			83	31				
08:15		29	20			78	20				
08:30		23	17			68	27				
08:45		25	26	106	93	63	17	292	95	398	188
09:00		25	19			46	16				
09:15		16	18			57	17				
09:30		17	8			37	11				
09:45		19	12	77	57	38	20	178	64	255	121
10:00		19	12			23	15				
10:15		26	10			32	9				
10:30		27	5			36	10				
10:45		25	6	97	33	23	9	114	43	211	76
11:00		21	3			24	5				
11:15		14	4			32	5				
11:30		19	8			20	10				
11:45		17	1	71	16	29	6	105	26	176	42
Total		495	1344			1196	1491			1691	2835
Percent		26.9%	73.1%			44.5%	55.5%			37.4%	62.6%

Accurate Counts
978-664-2565

Location : Bates Road South of
Location : Broadway
City/State: Arlington, MA
Counter : 131

Site Code: 14720010
14720V10

Start Time	27-May-10 Thu	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		7	24			4	38				
12:15		0	20			4	34				
12:30		2	14			5	38				
12:45		2	26	11	84	5	29	18	139	29	223
01:00		0	15			1	31				
01:15		1	20			1	35				
01:30		0	14			2	38				
01:45		0	27	1	76	0	32	4	136	5	212
02:00		2	28			1	38				
02:15		0	33			0	35				
02:30		0	26			2	41				
02:45		0	34	2	121	1	57	4	171	6	292
03:00		0	41			1	51				
03:15		0	36			1	52				
03:30		1	45			1	41				
03:45		1	57	2	179	0	41	3	185	5	364
04:00		1	53			0	30				
04:15		1	53			0	38				
04:30		1	45			2	39				
04:45		0	41	3	192	3	42	5	149	8	341
05:00		1	52			2	43				
05:15		1	56			4	37				
05:30		6	51			5	47				
05:45		5	50	13	209	12	43	23	170	36	379
06:00		4	39			18	36				
06:15		6	36			24	48				
06:30		9	28			53	44				
06:45		13	33	32	136	48	57	143	185	175	321
07:00		15	49			62	46				
07:15		17	27			93	31				
07:30		30	22			85	29				
07:45		35	33	97	131	82	29	322	135	419	266
08:00		23	15			67	25				
08:15		31	22			75	21				
08:30		29	16			61	27				
08:45		29	19	112	72	63	27	266	100	378	172
09:00		24	16			50	23				
09:15		21	14			45	20				
09:30		16	10			38	13				
09:45		15	21	76	61	35	14	168	70	244	131
10:00		22	13			32	11				
10:15		22	10			27	17				
10:30		28	3			33	6				
10:45		24	10	96	36	32	11	124	45	220	81
11:00		18	10			37	4				
11:15		19	1			39	4				
11:30		18	4			33	6				
11:45		15	2	70	17	30	5	139	19	209	36
Total		515	1314			1219	1504			1734	2818
Percent		28.2%	71.8%			44.8%	55.2%			38.1%	61.9%
Grand Total		1010	2658			2415	2995			3425	5653
Percent		27.5%	72.5%			44.6%	55.4%			37.7%	62.3%
ADT		ADT 4,539				AADT 4,539					

Accurate Counts 978-664-2565

Location : Bates Road South of
Location : Broadway
City/State: Arlington, MA
Counter : 131

Site Code: 14720010
14720V10

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	9	24	11	18	*	*	*	*	*	*	10	21
01:00	*	*	*	*	6	3	1	4	*	*	*	*	*	*	4	4
02:00	*	*	*	*	2	1	2	4	*	*	*	*	*	*	2	2
03:00	*	*	*	*	3	2	2	3	*	*	*	*	*	*	2	2
04:00	*	*	*	*	1	6	3	5	*	*	*	*	*	*	2	6
05:00	*	*	*	*	14	23	13	23	*	*	*	*	*	*	14	23
06:00	*	*	*	*	24	129	32	143	*	*	*	*	*	*	28	136
07:00	*	*	*	*	85	319	97	322	*	*	*	*	*	*	91	320
08:00	*	*	*	*	106	292	112	266	*	*	*	*	*	*	109	279
09:00	*	*	*	*	77	178	76	168	*	*	*	*	*	*	76	173
10:00	*	*	*	*	97	114	96	124	*	*	*	*	*	*	96	119
11:00	*	*	*	*	71	105	70	139	*	*	*	*	*	*	70	122
12:00 PM	*	*	*	*	106	144	84	139	*	*	*	*	*	*	95	142
01:00	*	*	*	*	78	128	76	136	*	*	*	*	*	*	77	132
02:00	*	*	*	*	127	163	121	171	*	*	*	*	*	*	124	167
03:00	*	*	*	*	166	172	179	185	*	*	*	*	*	*	172	178
04:00	*	*	*	*	223	164	192	149	*	*	*	*	*	*	208	156
05:00	*	*	*	*	184	185	209	170	*	*	*	*	*	*	196	178
06:00	*	*	*	*	150	179	136	185	*	*	*	*	*	*	143	182
07:00	*	*	*	*	111	128	131	135	*	*	*	*	*	*	121	132
08:00	*	*	*	*	93	95	72	100	*	*	*	*	*	*	82	98
09:00	*	*	*	*	57	64	61	70	*	*	*	*	*	*	59	67
10:00	*	*	*	*	33	43	36	45	*	*	*	*	*	*	34	44
11:00	*	*	*	*	16	26	17	19	*	*	*	*	*	*	16	22
Lane	0	0	0	0	1839	2687	1829	2723	0	0	0	0	0	0	1831	2705
Day	0		0		4526		4552		0		0		0		4536	
AM Peak					08:00	07:00	08:00	07:00							08:00	07:00
Vol.					106	319	112	322							109	320
PM Peak					16:00	17:00	17:00	15:00							16:00	18:00
Vol.					223	185	209	185							208	182

Comb. Total	0	0	4526	4552	0	0	0	4536
ADT	ADT 4,539	AADT 4,539						

Site Code: 14720010
14720S10

[illegible]

Accurate Counts 978-664-2565

Location : Bates Road South of
Location : Broadway
City/State: Arlington, MA
Counter : 131
Northbound

Site Code: 14720010
14720S10

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	0	0	5	5	1	0	0	0	0	0	0	0	0	0	11	21-30	10
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	22-31	1
02:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	13-22	2
03:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	17-26	2
04:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	23-32	3
05:00	2	2	1	3	4	1	0	0	0	0	0	0	0	0	13	25-34	8
06:00	2	2	10	11	6	1	0	0	0	0	0	0	0	0	32	21-30	21
07:00	8	3	43	30	13	0	0	0	0	0	0	0	0	0	97	21-30	73
08:00	10	17	35	44	4	2	0	0	0	0	0	0	0	0	112	21-30	79
09:00	3	6	32	27	7	0	1	0	0	0	0	0	0	0	76	21-30	59
10:00	4	13	40	32	6	1	0	0	0	0	0	0	0	0	96	21-30	72
11:00	2	9	38	20	1	0	0	0	0	0	0	0	0	0	70	21-30	58
12 PM	5	7	28	39	5	0	0	0	0	0	0	0	0	0	84	21-30	67
13:00	3	10	23	32	7	1	0	0	0	0	0	0	0	0	76	21-30	55
14:00	9	7	44	50	10	1	0	0	0	0	0	0	0	0	121	21-30	94
15:00	14	22	63	69	10	1	0	0	0	0	0	0	0	0	179	21-30	132
16:00	8	18	91	60	14	1	0	0	0	0	0	0	0	0	192	21-30	151
17:00	18	24	98	54	13	2	0	0	0	0	0	0	0	0	209	21-30	152
18:00	9	8	36	67	14	2	0	0	0	0	0	0	0	0	136	21-30	103
19:00	10	15	46	52	8	0	0	0	0	0	0	0	0	0	131	21-30	98
20:00	3	6	36	24	3	0	0	0	0	0	0	0	0	0	72	21-30	60
21:00	2	11	22	21	4	1	0	0	0	0	0	0	0	0	61	21-30	43
22:00	2	5	11	13	5	0	0	0	0	0	0	0	0	0	36	21-30	24
23:00	1	0	9	7	0	0	0	0	0	0	0	0	0	0	17	21-30	16
Total	115	185	714	662	138	14	1	0	0	0	0	0	0	0	1829		
Percent	6.3%	10.1%	39.0%	36.2%	7.5%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	08:00	07:00	08:00	09:00									08:00	
Vol.	10	17	43	44	13	2	1									112	
PM Peak	17:00	17:00	17:00	15:00	16:00	17:00										17:00	
Vol.	18	24	98	69	14	2										209	
Total	226	344	1363	1401	307	26	1	0	0	0	0	0	0	0	3668		
Percent	6.2%	9.4%	37.2%	38.2%	8.4%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 20 MPH
50th Percentile : 25 MPH
85th Percentile : 30 MPH
95th Percentile : 33 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 2764
Percent in Pace : 75.4%
Number of Vehicles > 20 MPH : 3098
Percent of Vehicles > 20 MPH : 84.5%
Mean Speed(Average) : 24 MPH

Site Code: 14720010
14720S10

[illegible]

Accurate Counts **978-664-2565**

Location : Bates Road South of
Location : Broadway
City/State: Arlington, MA
Counter : 131
Southbound

Site Code: 14720010
14720S10

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	1	3	10	4	0	0	0	0	0	0	0	0	0	18	23-32	15
01:00	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4	22-31	4
02:00	0	0	0	3	1	0	0	0	0	0	0	0	0	0	4	22-31	4
03:00	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3	18-27	3
04:00	0	0	0	1	3	1	0	0	0	0	0	0	0	0	5	27-36	5
05:00	1	1	1	9	9	2	0	0	0	0	0	0	0	0	23	25-34	18
06:00	0	3	11	82	40	6	1	0	0	0	0	0	0	0	143	26-35	122
07:00	9	7	69	177	56	4	0	0	0	0	0	0	0	0	322	21-30	246
08:00	6	10	49	160	38	3	0	0	0	0	0	0	0	0	266	21-30	209
09:00	3	4	45	83	31	2	0	0	0	0	0	0	0	0	168	21-30	128
10:00	1	8	23	68	24	0	0	0	0	0	0	0	0	0	124	23-32	93
11:00	3	9	56	58	11	2	0	0	0	0	0	0	0	0	139	21-30	114
12 PM	3	4	43	68	21	0	0	0	0	0	0	0	0	0	139	21-30	111
13:00	6	4	52	61	11	2	0	0	0	0	0	0	0	0	136	21-30	113
14:00	12	10	52	78	18	0	1	0	0	0	0	0	0	0	171	21-30	130
15:00	8	11	59	87	20	0	0	0	0	0	0	0	0	0	185	21-30	146
16:00	5	11	49	69	14	1	0	0	0	0	0	0	0	0	149	21-30	118
17:00	8	7	32	92	29	1	1	0	0	0	0	0	0	0	170	21-30	124
18:00	7	2	32	103	35	5	1	0	0	0	0	0	0	0	185	24-33	138
19:00	5	2	27	76	21	4	0	0	0	0	0	0	0	0	135	21-30	103
20:00	2	2	25	51	17	3	0	0	0	0	0	0	0	0	100	21-30	76
21:00	3	2	14	41	10	0	0	0	0	0	0	0	0	0	70	21-30	55
22:00	2	1	12	23	6	1	0	0	0	0	0	0	0	0	45	21-30	35
23:00	0	1	3	9	5	1	0	0	0	0	0	0	0	0	19	23-32	14
Total	84	100	658	1414	425	38	4	0	0	0	0	0	0	0	2723		
Percent	3.1%	3.7%	24.2%	51.9%	15.6%	1.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	08:00	07:00	07:00	07:00	06:00	06:00									07:00	
Vol.	9	10	69	177	56	6	1									322	
PM Peak	14:00	15:00	15:00	18:00	18:00	18:00	14:00									15:00	
Vol.	12	11	59	103	35	5	1									185	
Total	174	190	1292	2767	897	82	8	0	0	0	0	0	0	0	5410		
Percent	3.2%	3.5%	23.9%	51.1%	16.6%	1.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 22 MPH
50th Percentile : 27 MPH
85th Percentile : 31 MPH
95th Percentile : 34 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 4059
Percent in Pace : 75.0%
Number of Vehicles > 20 MPH : 5046
Percent of Vehicles > 20 MPH : 93.3%
Mean Speed(Average) : 27 MPH

Site Code: 14720010
14720S10

[illegible]

Accurate Counts 978-664-2565

Location : Bates Road South of
Location : Broadway
City/State: Arlington, MA
Counter : 131
Northbound, Southbound

Site Code: 14720010
14720S10

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	0	1	8	15	5	0	0	0	0	0	0	0	0	0	29	21-30	23
01:00	0	0	0	3	2	0	0	0	0	0	0	0	0	0	5	23-32	5
02:00	0	0	2	3	1	0	0	0	0	0	0	0	0	0	6	22-31	6
03:00	0	0	2	3	0	0	0	0	0	0	0	0	0	0	5	19-28	5
04:00	0	0	0	2	5	1	0	0	0	0	0	0	0	0	8	27-36	8
05:00	3	3	2	12	13	3	0	0	0	0	0	0	0	0	36	26-35	25
06:00	2	5	21	93	46	7	1	0	0	0	0	0	0	0	175	26-35	139
07:00	17	10	112	207	69	4	0	0	0	0	0	0	0	0	419	21-30	319
08:00	16	27	84	204	42	5	0	0	0	0	0	0	0	0	378	21-30	288
09:00	6	10	77	110	38	2	1	0	0	0	0	0	0	0	244	21-30	187
10:00	5	21	63	100	30	1	0	0	0	0	0	0	0	0	220	21-30	163
11:00	5	18	94	78	12	2	0	0	0	0	0	0	0	0	209	21-30	172
12 PM	8	11	71	107	26	0	0	0	0	0	0	0	0	0	223	21-30	178
13:00	9	14	75	93	18	3	0	0	0	0	0	0	0	0	212	21-30	168
14:00	21	17	96	128	28	1	1	0	0	0	0	0	0	0	292	21-30	224
15:00	22	33	122	156	30	1	0	0	0	0	0	0	0	0	364	21-30	278
16:00	13	29	140	129	28	2	0	0	0	0	0	0	0	0	341	21-30	269
17:00	26	31	130	146	42	3	1	0	0	0	0	0	0	0	379	21-30	276
18:00	16	10	68	170	49	7	1	0	0	0	0	0	0	0	321	21-30	238
19:00	15	17	73	128	29	4	0	0	0	0	0	0	0	0	266	21-30	201
20:00	5	8	61	75	20	3	0	0	0	0	0	0	0	0	172	21-30	136
21:00	5	13	36	62	14	1	0	0	0	0	0	0	0	0	131	21-30	98
22:00	4	6	23	36	11	1	0	0	0	0	0	0	0	0	81	21-30	59
23:00	1	1	12	16	5	1	0	0	0	0	0	0	0	0	36	21-30	28
Total	199	285	1372	2076	563	52	5	0	0	0	0	0	0	0	4552		
Percent	4.4%	6.3%	30.1%	45.6%	12.4%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	08:00	07:00	07:00	07:00	06:00	06:00									07:00	
Vol.	17	27	112	207	69	7	1									419	
PM Peak	17:00	15:00	16:00	18:00	18:00	18:00	14:00									17:00	
Vol.	26	33	140	170	49	7	1									379	
Total	400	534	2655	4168	1204	108	9	0	0	0	0	0	0	0	9078		
Percent	4.4%	5.9%	29.2%	45.9%	13.3%	1.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 21 MPH
50th Percentile : 27 MPH
85th Percentile : 30 MPH
95th Percentile : 34 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 6823
Percent in Pace : 75.2%
Number of Vehicles > 20 MPH : 8144
Percent of Vehicles > 20 MPH : 89.7%
Mean Speed(Average) : 26 MPH

Accurate Counts

978-664-2565

Page 1

Location : Grafton Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 5853

























Site Code: 14720011
14720V11

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	1	11	4	18	*	*	2	14
12:15	0	9	0	9	*	*	0	9
12:30	1	8	5	15	*	*	3	12
12:45	1	22	3	11	*	*	2	16
01:00	1	11	1	16	*	*	1	14
01:15	0	26	0	14	*	*	0	20
01:30	3	18	0	19	*	*	2	18
01:45	1	21	0	8	*	*	0	14
02:00	0	11	2	22	*	*	1	16
02:15	3	17	1	15	*	*	2	16
02:30	0	7	0	16	*	*	0	12
02:45	0	12	0	22	*	*	0	17
03:00	0	11	1	12	*	*	0	12
03:15	1	9	0	19	*	*	0	14
03:30	0	21	0	22	*	*	0	22
03:45	1	12	0	23	*	*	0	18
04:00	1	14	0	18	*	*	0	16
04:15	0	9	0	16	*	*	0	12
04:30	0	18	1	20	*	*	0	19
04:45	1	21	0	19	*	*	0	20
05:00	1	15	2	29	*	*	2	22
05:15	4	10	2	12	*	*	3	11
05:30	6	20	4	11	*	*	5	16
05:45	2	21	1	26	*	*	2	24
06:00	2	12	6	22	*	*	4	17
06:15	7	20	5	22	*	*	6	21
06:30	6	8	10	16	*	*	8	12
06:45	10	20	14	12	*	*	12	16
07:00	12	17	12	20	*	*	12	18
07:15	9	18	11	15	*	*	10	16
07:30	17	7	16	11	*	*	16	9
07:45	11	12	8	14	*	*	10	13
08:00	18	13	22	21	*	*	20	17
08:15	27	9	16	10	*	*	22	10
08:30	33	6	16	8	*	*	24	7
08:45	20	15	17	11	*	*	18	13
09:00	15	6	11	15	*	*	13	10
09:15	16	12	9	16	*	*	12	14
09:30	15	5	18	3	*	*	16	4
09:45	16	10	8	2	*	*	12	6
10:00	17	11	11	12	*	*	14	12
10:15	15	3	5	9	*	*	10	6
10:30	5	4	17	5	*	*	11	4
10:45	19	4	11	1	*	*	15	2
11:00	13	5	17	5	*	*	15	5
11:15	15	7	10	4	*	*	12	6
11:30	8	0	11	6	*	*	10	3
11:45	10	3	8	0	*	*	9	2
Total	364	581	316	672	0	0	336	627
Combined Total	945		988		0		963	
Peak	08:00	00:45	08:00	05:45			08:00	05:30
Vol.	98	77	71	86			84	78
P.H.F.	0.742	0.740	0.807	0.741			0.875	0.813
ADT		ADT 966	AADT 966					

Accurate Counts
978-664-2565

Location : Grafton Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 5853

Site Code: 14720011
14720V11

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	3	12	*	8	*	*	8 
01:00	*	*	5	1	*	3	*	*	3 
02:00	*	*	3	3	*	3	*	*	3 
03:00	*	*	2	1	*	2	*	*	2 
04:00	*	*	2	1	*	2	*	*	2 
05:00	*	*	13	9	*	11	*	*	11 
06:00	*	*	25	35	*	30	*	*	30 
07:00	*	*	49	47	*	48	*	*	48 
08:00	*	*	98	71	*	84	*	*	84 
09:00	*	*	62	46	*	54	*	*	54 
10:00	*	*	56	44	*	50	*	*	50 
11:00	*	*	46	46	*	46	*	*	46 
12:00 PM	*	*	50	53	*	52	*	*	52 
01:00	*	*	76	57	*	66	*	*	66 
02:00	*	*	47	75	*	61	*	*	61 
03:00	*	*	53	76	*	64	*	*	64 
04:00	*	*	62	73	*	68	*	*	68 
05:00	*	*	66	78	*	72	*	*	72 
06:00	*	*	60	72	*	66	*	*	66 
07:00	*	*	54	60	*	57	*	*	57 
08:00	*	*	43	50	*	46	*	*	46 
09:00	*	*	33	36	*	34	*	*	34 
10:00	*	*	22	27	*	24	*	*	24 
11:00	*	*	15	15	*	15	*	*	15 
Day Total	0	0	945	988	0	966	0	0	966
% Avg. WkDay	0.0%	0.0%	97.8%	102.3%	0.0%				
% Avg. Week	0.0%	0.0%	97.8%	102.3%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			98	71		84			84
PM Peak			13:00	17:00		17:00			17:00
Vol.			76	78		72			72
Grand Total	0	0	945	988	0	966	0	0	966
ADT	ADT 966		AADT 966						

Site Code: 14720011
14720S11

[illegible]

Accurate Counts 978-664-2565

Location : Grafton Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 5853
Northbound

Site Code: 14720011
14720S11

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	4	2	6	0	0	0	0	0	0	0	0	0	0	12	21-30	8
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
02:00	1	0	1	0	1	0	0	0	0	0	0	0	0	0	3	*	1
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	22-31	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
05:00	2	3	1	3	0	0	0	0	0	0	0	0	0	0	9	9-18	5
06:00	8	5	12	7	2	1	0	0	0	0	0	0	0	0	35	18-27	19
07:00	3	9	17	15	2	0	1	0	0	0	0	0	0	0	47	21-30	32
08:00	12	13	29	14	3	0	0	0	0	0	0	0	0	0	71	18-27	44
09:00	8	8	18	12	0	0	0	0	0	0	0	0	0	0	46	18-27	30
10:00	8	10	17	9	0	0	0	0	0	0	0	0	0	0	44	16-25	27
11:00	12	7	20	6	1	0	0	0	0	0	0	0	0	0	46	17-26	28
12 PM	13	9	20	9	1	1	0	0	0	0	0	0	0	0	53	17-26	30
13:00	10	9	29	7	2	0	0	0	0	0	0	0	0	0	57	17-26	39
14:00	15	14	21	19	5	0	0	1	0	0	0	0	0	0	75	20-29	40
15:00	2	11	35	24	4	0	0	0	0	0	0	0	0	0	76	21-30	59
16:00	8	13	30	20	2	0	0	0	0	0	0	0	0	0	73	21-30	50
17:00	11	15	38	13	1	0	0	0	0	0	0	0	0	0	78	16-25	53
18:00	12	13	33	13	1	0	0	0	0	0	0	0	0	0	72	18-27	48
19:00	10	17	24	9	0	0	0	0	0	0	0	0	0	0	60	16-25	41
20:00	7	11	23	9	0	0	0	0	0	0	0	0	0	0	50	16-25	34
21:00	5	8	15	5	2	1	0	0	0	0	0	0	0	0	36	16-25	23
22:00	3	6	10	7	1	0	0	0	0	0	0	0	0	0	27	18-27	18
23:00	0	3	2	8	2	0	0	0	0	0	0	0	0	0	15	23-32	12
Total	150	189	398	215	31	3	1	1	0	0	0	0	0	0	988		
Percent	15.2%	19.1%	40.3%	21.8%	3.1%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	07:00	08:00	06:00	07:00									08:00	
Vol.	12	13	29	15	3	1	1									71	
PM Peak	14:00	19:00	17:00	15:00	14:00	12:00		14:00								17:00	
Vol.	15	17	38	24	5	1		1								78	
Total	275	383	796	414	57	6	1	1	0	0	0	0	0	0	1933		
Percent	14.2%	19.8%	41.2%	21.4%	2.9%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 16 MPH
50th Percentile : 22 MPH
85th Percentile : 28 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 1210
Percent in Pace : 62.6%
Number of Vehicles > 20 MPH : 1275
Percent of Vehicles > 20 MPH : 66.0%
Mean Speed(Average) : 21 MPH

Accurate Counts
978-664-2565

Location : Orvis Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10110

Site Code: 14720012
14720V12

Start Time	26-May-10 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	15			0	29				
12:15		2	16			2	34				
12:30		1	19			0	25				
12:45		0	11	6	61	0	26	2	114	8	175
01:00		1	16			0	31				
01:15		0	16			0	25				
01:30		0	16			1	27				
01:45		0	17	1	65	0	32	1	115	2	180
02:00		1	20			0	32				
02:15		0	17			0	20				
02:30		0	23			0	33				
02:45		0	22	1	82	0	36	0	121	1	203
03:00		1	18			1	26				
03:15		0	20			0	39				
03:30		0	26			0	38				
03:45		0	22	1	86	0	45	1	148	2	234
04:00		1	17			1	34				
04:15		0	48			0	36				
04:30		0	41			0	43				
04:45		1	37	2	143	2	49	3	162	5	305
05:00		1	28			1	51				
05:15		0	25			3	43				
05:30		3	16			3	48				
05:45		5	28	9	97	7	41	14	183	23	280
06:00		3	22			12	45				
06:15		6	25			15	39				
06:30		11	15			12	38				
06:45		16	27	36	89	47	41	86	163	122	252
07:00		18	16			44	34				
07:15		14	28			51	50				
07:30		17	32			78	28				
07:45		19	13	68	89	73	30	246	142	314	231
08:00		25	17			57	15				
08:15		40	16			82	31				
08:30		21	13			64	24				
08:45		26	12	112	58	64	25	267	95	379	153
09:00		23	15			57	15				
09:15		14	17			46	21				
09:30		23	9			44	14				
09:45		25	11	85	52	42	20	189	70	274	122
10:00		16	15			22	15				
10:15		10	7			32	11				
10:30		14	1			15	10				
10:45		24	2	64	25	35	6	104	42	168	67
11:00		38	3			26	3				
11:15		22	3			33	4				
11:30		14	4			18	5				
11:45		16	1	90	11	21	2	98	14	188	25
Total		475	858			1011	1369			1486	2227
Percent		35.6%	64.4%			42.5%	57.5%			40.0%	60.0%

Accurate Counts
978-664-2565

Page 2

Location : Orvis Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10110

Site Code: 14720012
14720V12

Start Time	27-May-10 Thu	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	20			1	31				
12:15		2	17			2	33				
12:30		3	21			3	26				
12:45		0	22	8	80	2	31	8	121	16	201
01:00		0	27			2	27				
01:15		0	24			1	24				
01:30		1	13			1	27				
01:45		0	11	1	75	0	26	4	104	5	179
02:00		2	25			3	38				
02:15		0	22			0	26				
02:30		0	15			1	27				
02:45		0	25	2	87	0	34	4	125	6	212
03:00		0	20			3	39				
03:15		0	22			0	39				
03:30		0	32			0	40				
03:45		0	34	0	108	0	29	3	147	3	255
04:00		0	33			0	37				
04:15		1	28			0	38				
04:30		1	23			0	35				
04:45		0	34	2	118	0	40	0	150	2	268
05:00		0	25			2	41				
05:15		1	23			1	49				
05:30		1	26			0	45				
05:45		4	20	6	94	4	46	7	181	13	275
06:00		4	28			8	39				
06:15		7	28			12	40				
06:30		13	17			17	37				
06:45		10	29	34	102	29	39	66	155	100	257
07:00		19	21			41	38				
07:15		16	28			64	37				
07:30		14	21			73	28				
07:45		21	26	70	96	63	33	241	136	311	232
08:00		13	17			46	32				
08:15		20	19			44	25				
08:30		21	13			45	16				
08:45		21	23	75	72	49	23	184	96	259	168
09:00		16	25			52	19				
09:15		24	18			30	23				
09:30		16	12			34	9				
09:45		22	14	78	69	27	22	143	73	221	142
10:00		18	8			34	11				
10:15		23	4			36	16				
10:30		11	6			27	9				
10:45		26	1	78	19	38	5	135	41	213	60
11:00		21	4			26	8				
11:15		17	3			30	4				
11:30		15	2			33	6				
11:45		24	5	77	14	26	1	115	19	192	33
Total		431	934			910	1348			1341	2282
Percent		31.6%	68.4%			40.3%	59.7%			37.0%	63.0%
Grand Total		906	1792			1921	2717			2827	4509
Percent		33.6%	66.4%			41.4%	58.6%			38.5%	61.5%
ADT		ADT 3,668				AADT 3,668					

Accurate Counts 978-664-2565

Location : Orvis Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10110

Site Code: 14720012
14720V12

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	6	2	8	8	*	*	*	*	*	*	7	5
01:00	*	*	*	*	1	1	1	4	*	*	*	*	*	*	1	2
02:00	*	*	*	*	1	0	2	4	*	*	*	*	*	*	2	2
03:00	*	*	*	*	1	1	0	3	*	*	*	*	*	*	0	2
04:00	*	*	*	*	2	3	2	0	*	*	*	*	*	*	2	2
05:00	*	*	*	*	9	14	6	7	*	*	*	*	*	*	8	10
06:00	*	*	*	*	36	86	34	66	*	*	*	*	*	*	35	76
07:00	*	*	*	*	68	246	70	241	*	*	*	*	*	*	69	244
08:00	*	*	*	*	112	267	75	184	*	*	*	*	*	*	94	226
09:00	*	*	*	*	85	189	78	143	*	*	*	*	*	*	82	166
10:00	*	*	*	*	64	104	78	135	*	*	*	*	*	*	71	120
11:00	*	*	*	*	90	98	77	115	*	*	*	*	*	*	84	106
12:00 PM	*	*	*	*	61	114	80	121	*	*	*	*	*	*	70	118
01:00	*	*	*	*	65	115	75	104	*	*	*	*	*	*	70	110
02:00	*	*	*	*	82	121	87	125	*	*	*	*	*	*	84	123
03:00	*	*	*	*	86	148	108	147	*	*	*	*	*	*	97	148
04:00	*	*	*	*	143	162	118	150	*	*	*	*	*	*	130	156
05:00	*	*	*	*	97	183	94	181	*	*	*	*	*	*	96	182
06:00	*	*	*	*	89	163	102	155	*	*	*	*	*	*	96	159
07:00	*	*	*	*	89	142	96	136	*	*	*	*	*	*	92	139
08:00	*	*	*	*	58	95	72	96	*	*	*	*	*	*	65	96
09:00	*	*	*	*	52	70	69	73	*	*	*	*	*	*	60	72
10:00	*	*	*	*	25	42	19	41	*	*	*	*	*	*	22	42
11:00	*	*	*	*	11	14	14	19	*	*	*	*	*	*	12	16
Lane	0	0	0	0	1333	2380	1365	2258	0	0	0	0	0	0	1349	2322
Day	0		0		3713		3623		0		0		0		3671	
AM Peak					08:00	08:00	09:00	07:00							08:00	07:00
Vol.					112	267	78	241							94	244
PM Peak					16:00	17:00	16:00	17:00							16:00	17:00
Vol.					143	183	118	181							130	182

Comb. Total	0	0	3713	3623	0	0	0	3671
ADT	ADT 3,668	AADT 3,668						

Page 1

Site Code: 14720012
14720S12

[illegible]

Accurate Counts **978-664-2565**

Location : Orvis Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10110
Northbound

Site Code: 14720012
14720S12

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	1	0	5	2	0	0	0	0	0	0	0	0	0	0	8	18-27	7
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	12-21	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	17-26	2
05:00	1	0	2	3	0	0	0	0	0	0	0	0	0	0	6	19-28	5
06:00	7	5	16	4	1	1	0	0	0	0	0	0	0	0	34	16-25	21
07:00	19	24	17	9	1	0	0	0	0	0	0	0	0	0	70	16-25	41
08:00	21	16	29	8	1	0	0	0	0	0	0	0	0	0	75	16-25	45
09:00	21	27	26	3	1	0	0	0	0	0	0	0	0	0	78	16-25	53
10:00	24	23	26	5	0	0	0	0	0	0	0	0	0	0	78	16-25	49
11:00	24	28	24	1	0	0	0	0	0	0	0	0	0	0	77	16-25	52
12 PM	25	30	20	5	0	0	0	0	0	0	0	0	0	0	80	16-25	50
13:00	23	29	22	1	0	0	0	0	0	0	0	0	0	0	75	16-25	51
14:00	31	22	26	7	0	1	0	0	0	0	0	0	0	0	87	16-25	48
15:00	35	26	40	7	0	0	0	0	0	0	0	0	0	0	108	16-25	66
16:00	24	28	47	17	2	0	0	0	0	0	0	0	0	0	118	16-25	75
17:00	22	25	30	15	2	0	0	0	0	0	0	0	0	0	94	16-25	55
18:00	31	32	24	15	0	0	0	0	0	0	0	0	0	0	102	16-25	56
19:00	30	32	27	6	1	0	0	0	0	0	0	0	0	0	96	16-25	59
20:00	35	25	10	2	0	0	0	0	0	0	0	0	0	0	72	11-20	35
21:00	34	17	12	5	1	0	0	0	0	0	0	0	0	0	69	13-22	29
22:00	5	3	6	4	1	0	0	0	0	0	0	0	0	0	19	18-27	11
23:00	0	5	4	5	0	0	0	0	0	0	0	0	0	0	14	16-25	9
Total	413	399	415	125	11	2	0	0	0	0	0	0	0	0	1365		
Percent	30.3%	29.2%	30.4%	9.2%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	11:00	08:00	07:00	06:00	06:00										09:00	
Vol.	24	28	29	9	1	1										78	
PM Peak	15:00	18:00	16:00	16:00	16:00	14:00										16:00	
Vol.	35	32	47	17	2	1										118	
Total	828	749	810	279	28	4	0	0	0	0	0	0	0	0	2698		
Percent	30.7%	27.8%	30.0%	10.3%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 8 MPH
50th Percentile : 19 MPH
85th Percentile : 25 MPH
95th Percentile : 29 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 1559
Percent in Pace : 57.8%
Number of Vehicles > 20 MPH : 1121
Percent of Vehicles > 20 MPH : 41.5%
Mean Speed(Average) : 18 MPH

Site Code: 14720012
14720S12

[illegible]

Accurate Counts **978-664-2565**

Location : Orvis Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10110
Southbound

Site Code: 14720012
14720S12

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	0	1	7	0	0	0	0	0	0	0	0	0	0	0	8	16-25	8
01:00	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4	17-26	3
02:00	0	0	3	1	0	0	0	0	0	0	0	0	0	0	4	17-26	4
03:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14-23	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	1	4	2	0	0	0	0	0	0	0	0	0	0	7	18-27	7
06:00	0	6	39	19	2	0	0	0	0	0	0	0	0	0	66	21-30	58
07:00	7	64	134	32	4	0	0	0	0	0	0	0	0	0	241	16-25	198
08:00	8	36	102	35	3	0	0	0	0	0	0	0	0	0	184	16-25	138
09:00	4	24	75	37	2	1	0	0	0	0	0	0	0	0	143	21-30	112
10:00	16	36	63	20	0	0	0	0	0	0	0	0	0	0	135	16-25	99
11:00	11	23	62	18	1	0	0	0	0	0	0	0	0	0	115	16-25	85
12 PM	17	26	67	9	2	0	0	0	0	0	0	0	0	0	121	16-25	93
13:00	9	35	51	9	0	0	0	0	0	0	0	0	0	0	104	16-25	86
14:00	9	38	68	9	1	0	0	0	0	0	0	0	0	0	125	16-25	106
15:00	16	51	65	15	0	0	0	0	0	0	0	0	0	0	147	16-25	116
16:00	9	39	85	15	2	0	0	0	0	0	0	0	0	0	150	16-25	124
17:00	12	52	98	19	0	0	0	0	0	0	0	0	0	0	181	16-25	150
18:00	11	43	76	24	1	0	0	0	0	0	0	0	0	0	155	16-25	119
19:00	22	38	60	16	0	0	0	0	0	0	0	0	0	0	136	16-25	98
20:00	13	30	47	5	1	0	0	0	0	0	0	0	0	0	96	16-25	77
21:00	4	23	41	5	0	0	0	0	0	0	0	0	0	0	73	16-25	64
22:00	2	11	21	6	1	0	0	0	0	0	0	0	0	0	41	16-25	32
23:00	0	3	12	4	0	0	0	0	0	0	0	0	0	0	19	18-27	17
Total	171	581	1184	301	20	1	0	0	0	0	0	0	0	0	2258		
Percent	7.6%	25.7%	52.4%	13.3%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	07:00	07:00	09:00	07:00	09:00										07:00	
Vol.	16	64	134	37	4	1										241	
PM Peak	19:00	17:00	17:00	18:00	12:00											17:00	
Vol.	22	52	98	24	2											181	
Total	405	1180	2372	639	40	2	0	0	0	0	0	0	0	0	4638		
Percent	8.7%	25.4%	51.1%	13.8%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 17 MPH
50th Percentile : 22 MPH
85th Percentile : 25 MPH
95th Percentile : 29 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 3552
Percent in Pace : 76.6%
Number of Vehicles > 20 MPH : 3053
Percent of Vehicles > 20 MPH : 65.8%
Mean Speed(Average) : 21 MPH

Site Code: 14720012
14720S12

[illegible]

Accurate Counts 978-664-2565

Location : Orvis Road South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10110
Northbound, Southbound

Site Code: 14720012
14720S12

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	1	1	12	2	0	0	0	0	0	0	0	0	0	0	16	18-27	15
01:00	1	2	1	1	0	0	0	0	0	0	0	0	0	0	5	8-17	3
02:00	0	1	4	1	0	0	0	0	0	0	0	0	0	0	6	17-26	6
03:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14-23	3
04:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	17-26	2
05:00	1	1	6	5	0	0	0	0	0	0	0	0	0	0	13	20-29	11
06:00	7	11	55	23	3	1	0	0	0	0	0	0	0	0	100	21-30	78
07:00	26	88	151	41	5	0	0	0	0	0	0	0	0	0	311	16-25	239
08:00	29	52	131	43	4	0	0	0	0	0	0	0	0	0	259	16-25	183
09:00	25	51	101	40	3	1	0	0	0	0	0	0	0	0	221	16-25	152
10:00	40	59	89	25	0	0	0	0	0	0	0	0	0	0	213	16-25	148
11:00	35	51	86	19	1	0	0	0	0	0	0	0	0	0	192	16-25	137
12 PM	42	56	87	14	2	0	0	0	0	0	0	0	0	0	201	16-25	143
13:00	32	64	73	10	0	0	0	0	0	0	0	0	0	0	179	16-25	137
14:00	40	60	94	16	1	1	0	0	0	0	0	0	0	0	212	16-25	154
15:00	51	77	105	22	0	0	0	0	0	0	0	0	0	0	255	16-25	182
16:00	33	67	132	32	4	0	0	0	0	0	0	0	0	0	268	16-25	199
17:00	34	77	128	34	2	0	0	0	0	0	0	0	0	0	275	16-25	205
18:00	42	75	100	39	1	0	0	0	0	0	0	0	0	0	257	16-25	175
19:00	52	70	87	22	1	0	0	0	0	0	0	0	0	0	232	16-25	157
20:00	48	55	57	7	1	0	0	0	0	0	0	0	0	0	168	16-25	112
21:00	38	40	53	10	1	0	0	0	0	0	0	0	0	0	142	16-25	93
22:00	7	14	27	10	2	0	0	0	0	0	0	0	0	0	60	16-25	41
23:00	0	8	16	9	0	0	0	0	0	0	0	0	0	0	33	18-27	26
Total	584	980	1599	426	31	3	0	0	0	0	0	0	0	0	3623		
Percent	16.1%	27.0%	44.1%	11.8%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	07:00	07:00	08:00	07:00	06:00										07:00	
Vol.	40	88	151	43	5	1										311	
PM Peak	19:00	15:00	16:00	18:00	16:00	14:00										17:00	
Vol.	52	77	132	39	4	1										275	
Total	1233	1929	3182	918	68	6	0	0	0	0	0	0	0	0	7336		
Percent	16.8%	26.3%	43.4%	12.5%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 14 MPH
50th Percentile : 21 MPH
85th Percentile : 25 MPH
95th Percentile : 29 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 5111
Percent in Pace : 69.7%
Number of Vehicles > 20 MPH : 4174
Percent of Vehicles > 20 MPH : 56.9%
Mean Speed(Average) : 20 MPH

Accurate Counts

978-664-2565

Location : Everett Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 232



















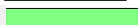





Site Code: 14720013
14720V13

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	0	10	0	7	*	*	0	8
12:15	1	14	0	7	*	*	0	10
12:30	0	10	2	9	*	*	1	10
12:45	1	9	0	9	*	*	0	9
01:00	0	9	0	6	*	*	0	8
01:15	0	9	0	13	*	*	0	11
01:30	0	6	0	6	*	*	0	6
01:45	1	10	2	10	*	*	2	10
02:00	1	12	1	7	*	*	1	10
02:15	1	17	0	9	*	*	0	13
02:30	0	12	0	7	*	*	0	10
02:45	0	13	0	16	*	*	0	14
03:00	0	9	1	14	*	*	0	12
03:15	0	14	2	15	*	*	1	14
03:30	0	17	0	13	*	*	0	15
03:45	0	11	0	13	*	*	0	12
04:00	0	13	0	14	*	*	0	14
04:15	0	12	0	17	*	*	0	14
04:30	0	20	0	10	*	*	0	15
04:45	2	6	0	5	*	*	1	6
05:00	1	17	0	25	*	*	0	21
05:15	1	21	1	19	*	*	1	20
05:30	1	23	2	13	*	*	2	18
05:45	2	16	0	19	*	*	1	18
06:00	2	10	2	8	*	*	2	9
06:15	5	8	5	11	*	*	5	10
06:30	14	11	13	12	*	*	14	12
06:45	15	8	9	11	*	*	12	10
07:00	13	16	15	13	*	*	14	14
07:15	19	16	29	12	*	*	24	14
07:30	29	15	18	6	*	*	24	10
07:45	21	6	23	8	*	*	22	7
08:00	20	7	15	13	*	*	18	10
08:15	28	4	18	8	*	*	23	6
08:30	19	8	22	11	*	*	20	10
08:45	20	6	6	10	*	*	13	8
09:00	11	6	12	6	*	*	12	6
09:15	15	3	13	5	*	*	14	4
09:30	11	8	14	4	*	*	12	6
09:45	6	5	10	5	*	*	8	5
10:00	12	6	17	5	*	*	14	6
10:15	9	6	7	8	*	*	8	7
10:30	10	0	9	3	*	*	10	2
10:45	12	6	6	3	*	*	9	4
11:00	12	3	8	0	*	*	10	2
11:15	10	2	14	5	*	*	12	4
11:30	10	1	12	0	*	*	11	0
11:45	11	0	6	0	*	*	8	0
Total	346	471	314	450	0	0	329	464
Combined Total	817		764		0		793	
Peak	07:30	05:00	07:00	05:00			07:15	05:00
Vol.	98	77	85	76			88	77
P.H.F.	0.845	0.837	0.733	0.760			0.917	0.917
ADT		ADT 790	AADT 790					

Accurate Counts
978-664-2565

Location : Everett Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 232

Site Code: 14720013
14720V13

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	2	2	*	2	*	*	2 
01:00	*	*	1	2	*	2	*	*	2 
02:00	*	*	2	1	*	2	*	*	2 
03:00	*	*	0	3	*	2	*	*	2 
04:00	*	*	2	0	*	1	*	*	1 
05:00	*	*	5	3	*	4	*	*	4 
06:00	*	*	36	29	*	32	*	*	32 
07:00	*	*	82	85	*	84	*	*	84 
08:00	*	*	87	61	*	74	*	*	74 
09:00	*	*	43	49	*	46	*	*	46 
10:00	*	*	43	39	*	41	*	*	41 
11:00	*	*	43	40	*	42	*	*	42 
12:00 PM	*	*	43	32	*	38	*	*	38 
01:00	*	*	34	35	*	34	*	*	34 
02:00	*	*	54	39	*	46	*	*	46 
03:00	*	*	51	55	*	53	*	*	53 
04:00	*	*	51	46	*	48	*	*	48 
05:00	*	*	77	76	*	76	*	*	76 
06:00	*	*	37	42	*	40	*	*	40 
07:00	*	*	53	39	*	46	*	*	46 
08:00	*	*	25	42	*	34	*	*	34 
09:00	*	*	22	20	*	21	*	*	21 
10:00	*	*	18	19	*	18	*	*	18 
11:00	*	*	6	5	*	6	*	*	6 
Day Total	0	0	817	764	0	792	0	0	792
% Avg. WkDay	0.0%	0.0%	103.2%	96.5%	0.0%				
% Avg. Week	0.0%	0.0%	103.2%	96.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	07:00		07:00			07:00
Vol.			87	85		84			84
PM Peak			17:00	17:00		17:00			17:00
Vol.			77	76		76			76
Grand Total	0	0	817	764	0	792	0	0	792
ADT	ADT 790		AADT 790						

Site Code: 14720013
14720S13

[illegible]

Accurate Counts 978-664-2565

Location : Everett Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 232
Southbound

Site Code: 14720013
14720S13

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	12-21	1
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	*	2
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
03:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	17-26	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3	17-26	2
06:00	3	2	9	11	4	0	0	0	0	0	0	0	0	0	29	21-30	20
07:00	6	6	23	31	15	3	1	0	0	0	0	0	0	0	85	21-30	54
08:00	1	6	19	28	6	1	0	0	0	0	0	0	0	0	61	21-30	47
09:00	8	8	13	15	4	1	0	0	0	0	0	0	0	0	49	21-30	28
10:00	6	9	14	9	1	0	0	0	0	0	0	0	0	0	39	17-26	24
11:00	9	7	9	10	5	0	0	0	0	0	0	0	0	0	40	19-28	19
12 PM	5	4	12	7	2	2	0	0	0	0	0	0	0	0	32	18-27	19
13:00	3	9	16	6	0	1	0	0	0	0	0	0	0	0	35	17-26	26
14:00	5	7	15	10	2	0	0	0	0	0	0	0	0	0	39	19-28	25
15:00	5	10	22	17	1	0	0	0	0	0	0	0	0	0	55	21-30	39
16:00	5	17	15	6	3	0	0	0	0	0	0	0	0	0	46	16-25	32
17:00	17	12	26	20	1	0	0	0	0	0	0	0	0	0	76	21-30	46
18:00	8	9	15	10	0	0	0	0	0	0	0	0	0	0	42	17-26	25
19:00	14	10	10	2	3	0	0	0	0	0	0	0	0	0	39	16-25	20
20:00	7	9	13	9	4	0	0	0	0	0	0	0	0	0	42	17-26	23
21:00	2	5	8	2	3	0	0	0	0	0	0	0	0	0	20	14-23	13
22:00	7	2	6	3	0	1	0	0	0	0	0	0	0	0	19	19-28	11
23:00	1	1	1	1	1	0	0	0	0	0	0	0	0	0	5	22-31	3
Total	116	133	250	199	55	10	1	0	0	0	0	0	0	0	764		
Percent	15.2%	17.4%	32.7%	26.0%	7.2%	1.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	10:00	07:00	07:00	07:00	07:00	07:00								07:00		
Vol.	9	9	23	31	15	3	1								85		
PM Peak	17:00	16:00	17:00	17:00	20:00	12:00									17:00		
Vol.	17	17	26	20	4	2									76		
Total	263	279	505	380	120	26	7	1	0	0	0	0	0	0	1581		
Percent	16.6%	17.6%	31.9%	24.0%	7.6%	1.6%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 14 MPH
50th Percentile : 23 MPH
85th Percentile : 29 MPH
95th Percentile : 34 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 885
Percent in Pace : 56.0%
Number of Vehicles > 20 MPH : 1039
Percent of Vehicles > 20 MPH : 65.7%
Mean Speed(Average) : 22 MPH

Accurate Counts

978-664-2565

Location : Oxford Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 124

























Site Code: 14720014
14720V14

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	3	8	0	17	*	*	2	12
12:15	0	20	1	11	*	*	0	16
12:30	1	15	3	19	*	*	2	17
12:45	0	22	1	16	*	*	0	19
01:00	3	20	0	10	*	*	2	15
01:15	0	16	0	17	*	*	0	16
01:30	0	16	1	17	*	*	0	16
01:45	2	10	1	12	*	*	2	11
02:00	1	12	0	7	*	*	0	10
02:15	2	20	0	20	*	*	1	20
02:30	1	22	0	20	*	*	0	21
02:45	0	17	0	18	*	*	0	18
03:00	0	25	1	18	*	*	0	22
03:15	0	18	2	19	*	*	1	18
03:30	0	18	0	29	*	*	0	24
03:45	2	15	1	19	*	*	2	17
04:00	0	18	0	25	*	*	0	22
04:15	0	23	0	21	*	*	0	22
04:30	1	23	2	18	*	*	2	20
04:45	1	25	2	23	*	*	2	24
05:00	1	16	1	19	*	*	1	18
05:15	5	31	2	19	*	*	4	25
05:30	9	31	4	33	*	*	6	32
05:45	5	24	4	21	*	*	4	22
06:00	6	22	10	23	*	*	8	22
06:15	11	23	15	30	*	*	13	26
06:30	12	15	11	22	*	*	12	18
06:45	20	16	17	19	*	*	18	18
07:00	44	13	33	29	*	*	38	21
07:15	64	18	55	23	*	*	60	20
07:30	61	9	69	14	*	*	65	12
07:45	57	12	55	19	*	*	56	16
08:00	59	15	40	15	*	*	50	15
08:15	59	16	50	8	*	*	54	12
08:30	53	9	47	7	*	*	50	8
08:45	37	6	39	10	*	*	38	8
09:00	40	7	26	10	*	*	33	8
09:15	23	12	26	6	*	*	24	9
09:30	13	5	24	4	*	*	18	4
09:45	14	3	15	5	*	*	14	4
10:00	15	5	18	8	*	*	16	6
10:15	18	5	15	8	*	*	16	6
10:30	17	7	17	7	*	*	17	7
10:45	15	4	13	4	*	*	14	4
11:00	15	8	20	1	*	*	18	4
11:15	23	2	14	1	*	*	18	2
11:30	24	7	18	2	*	*	21	4
11:45	13	2	11	1	*	*	12	2
Total	750	706	684	724	0	0	714	713
Combined Total	1456		1408		0		1427	
Peak	07:15	05:15	07:15	05:30			07:15	05:30
Vol.	241	108	219	107			231	102
P.H.F.	0.941	0.871	0.793	0.811			0.888	0.797
ADT		ADT 1,432	AADT 1,432					

Accurate Counts
978-664-2565

Location : Oxford Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 124

Site Code: 14720014
14720V14

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	4	5	*	4	*	*	4 
01:00	*	*	5	2	*	4	*	*	4 
02:00	*	*	4	0	*	2	*	*	2 
03:00	*	*	2	4	*	3	*	*	3 
04:00	*	*	2	4	*	3	*	*	3 
05:00	*	*	20	11	*	16	*	*	16 
06:00	*	*	49	53	*	51	*	*	51 
07:00	*	*	226	212	*	219	*	*	219 
08:00	*	*	208	176	*	192	*	*	192 
09:00	*	*	90	91	*	90	*	*	90 
10:00	*	*	65	63	*	64	*	*	64 
11:00	*	*	75	63	*	69	*	*	69 
12:00 PM	*	*	65	63	*	64	*	*	64 
01:00	*	*	62	56	*	59	*	*	59 
02:00	*	*	71	65	*	68	*	*	68 
03:00	*	*	76	85	*	80	*	*	80 
04:00	*	*	89	87	*	88	*	*	88 
05:00	*	*	102	92	*	97	*	*	97 
06:00	*	*	76	94	*	85	*	*	85 
07:00	*	*	52	85	*	68	*	*	68 
08:00	*	*	46	40	*	43	*	*	43 
09:00	*	*	27	25	*	26	*	*	26 
10:00	*	*	21	27	*	24	*	*	24 
11:00	*	*	19	5	*	12	*	*	12 
Day Total	0	0	1456	1408	0	1431	0	0	1431
% Avg. WkDay	0.0%	0.0%	101.7%	98.4%	0.0%				
% Avg. Week	0.0%	0.0%	101.7%	98.4%	0.0%	100.0%	0.0%	0.0%	
AM Peak			07:00	07:00		07:00			07:00
Vol.			226	212		219			219
PM Peak			17:00	18:00		17:00			17:00
Vol.			102	94		97			97
Grand Total	0	0	1456	1408	0	1431	0	0	1431
ADT	ADT 1,432		AADT 1,432						

Site Code: 14720014
14720S14

[illegible]

Accurate Counts **978-664-2565**

Location : Oxford Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 124
Southbound

Site Code: 14720014
14720S14

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	0	2	1	0	2	0	0	0	0	0	0	0	0	0	5	12-21	3
01:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	7-16	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	2	2	0	0	0	0	0	0	0	0	0	4	23-32	4
04:00	0	1	0	3	0	0	0	0	0	0	0	0	0	0	4	19-28	3
05:00	2	1	5	2	1	0	0	0	0	0	0	0	0	0	11	18-27	8
06:00	2	3	13	28	6	1	0	0	0	0	0	0	0	0	53	21-30	41
07:00	11	20	68	88	24	0	1	0	0	0	0	0	0	0	212	21-30	156
08:00	5	10	61	81	18	1	0	0	0	0	0	0	0	0	176	21-30	142
09:00	4	16	34	28	9	0	0	0	0	0	0	0	0	0	91	21-30	62
10:00	4	12	30	13	4	0	0	0	0	0	0	0	0	0	63	19-28	45
11:00	7	7	28	19	2	0	0	0	0	0	0	0	0	0	63	21-30	47
12 PM	5	15	24	15	4	0	0	0	0	0	0	0	0	0	63	16-25	39
13:00	7	9	13	22	3	2	0	0	0	0	0	0	0	0	56	21-30	35
14:00	4	12	34	15	0	0	0	0	0	0	0	0	0	0	65	19-28	49
15:00	12	11	40	22	0	0	0	0	0	0	0	0	0	0	85	21-30	62
16:00	10	10	41	23	2	1	0	0	0	0	0	0	0	0	87	21-30	64
17:00	12	14	35	23	7	1	0	0	0	0	0	0	0	0	92	21-30	58
18:00	18	24	30	21	1	0	0	0	0	0	0	0	0	0	94	17-26	55
19:00	1	12	29	37	5	1	0	0	0	0	0	0	0	0	85	21-30	66
20:00	7	6	17	9	1	0	0	0	0	0	0	0	0	0	40	20-29	27
21:00	3	8	9	5	0	0	0	0	0	0	0	0	0	0	25	15-24	17
22:00	0	3	13	7	4	0	0	0	0	0	0	0	0	0	27	18-27	20
23:00	0	0	2	2	0	1	0	0	0	0	0	0	0	0	5	18-27	4
Total	114	197	527	465	96	8	1	0	0	0	0	0	0	0	1408		
Percent	8.1%	14.0%	37.4%	33.0%	6.8%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	07:00	07:00	07:00	06:00	07:00									07:00	
Vol.	11	20	68	88	24	1	1									212	
PM Peak	18:00	18:00	16:00	19:00	17:00	13:00										18:00	
Vol.	18	24	41	37	7	2										94	
Total	211	380	1124	955	175	17	2	0	0	0	0	0	0	0	2864		
Percent	7.4%	13.3%	39.2%	33.3%	6.1%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 18 MPH
50th Percentile : 24 MPH
85th Percentile : 29 MPH
95th Percentile : 32 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 2079
Percent in Pace : 72.6%
Number of Vehicles > 20 MPH : 2273
Percent of Vehicles > 20 MPH : 79.4%
Mean Speed(Average) : 24 MPH

Accurate Counts **978-664-2565**

Location : Melrose Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 18430







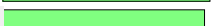









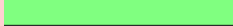


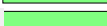

Site Code: 14720016
14720V16

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	1	5	3	8	*	*	2	6
12:15	1	4	1	12	*	*	1	8
12:30	2	17	1	14	*	*	2	16
12:45	0	5	2	8	*	*	1	6
01:00	0	5	0	13	*	*	0	9
01:15	0	8	1	9	*	*	0	8
01:30	0	6	0	8	*	*	0	7
01:45	0	3	0	3	*	*	0	3
02:00	0	8	0	8	*	*	0	8
02:15	0	7	0	17	*	*	0	12
02:30	0	8	0	8	*	*	0	8
02:45	1	8	0	12	*	*	0	10
03:00	1	12	0	14	*	*	0	13
03:15	0	7	0	10	*	*	0	8
03:30	0	12	0	8	*	*	0	10
03:45	1	11	0	5	*	*	0	8
04:00	0	11	0	8	*	*	0	10
04:15	0	15	0	9	*	*	0	12
04:30	1	12	0	4	*	*	0	8
04:45	0	12	0	9	*	*	0	10
05:00	2	6	2	13	*	*	2	10
05:15	2	17	1	11	*	*	2	14
05:30	0	9	3	14	*	*	2	12
05:45	2	14	3	7	*	*	2	10
06:00	5	6	6	8	*	*	6	7
06:15	1	9	0	15	*	*	0	12
06:30	3	17	4	15	*	*	4	16
06:45	9	14	1	12	*	*	5	13
07:00	4	17	9	4	*	*	6	10
07:15	12	13	11	15	*	*	12	14
07:30	11	12	13	9	*	*	12	10
07:45	15	9	4	8	*	*	10	8
08:00	8	10	14	9	*	*	11	10
08:15	17	5	13	13	*	*	15	9
08:30	5	4	5	5	*	*	5	4
08:45	9	12	7	5	*	*	8	8
09:00	11	7	7	7	*	*	9	7
09:15	6	6	19	8	*	*	12	7
09:30	5	11	11	7	*	*	8	9
09:45	8	5	8	6	*	*	8	6
10:00	7	5	6	6	*	*	6	6
10:15	7	9	8	4	*	*	8	6
10:30	12	0	11	6	*	*	12	3
10:45	8	6	15	1	*	*	12	4
11:00	4	4	7	2	*	*	6	3
11:15	6	2	2	4	*	*	4	3
11:30	18	2	6	1	*	*	12	2
11:45	6	1	7	0	*	*	6	0
Total	211	408	211	402	0	0	211	403
Combined Total	619		613		0		614	
Peak	07:30	06:30	09:00	02:15			07:30	06:30
Vol.	51	61	45	51			48	53
P.H.F.	0.750	0.897	0.592	0.750			0.800	0.828
ADT		ADT 616	AADT 616					

Accurate Counts
978-664-2565

Location : Melrose Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 18430

Site Code: 14720016
14720V16

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	4	7	*	6	*	*	6 
01:00	*	*	0	1	*	0	*	*	0
02:00	*	*	1	0	*	0	*	*	0
03:00	*	*	2	0	*	1	*	*	1 
04:00	*	*	1	0	*	0	*	*	0
05:00	*	*	6	9	*	8	*	*	8 
06:00	*	*	18	11	*	14	*	*	14 
07:00	*	*	42	37	*	40	*	*	40 
08:00	*	*	39	39	*	39	*	*	39 
09:00	*	*	30	45	*	38	*	*	38 
10:00	*	*	34	40	*	37	*	*	37 
11:00	*	*	34	22	*	28	*	*	28 
12:00 PM	*	*	31	42	*	36	*	*	36 
01:00	*	*	22	33	*	28	*	*	28 
02:00	*	*	31	45	*	38	*	*	38 
03:00	*	*	42	37	*	40	*	*	40 
04:00	*	*	50	30	*	40	*	*	40 
05:00	*	*	46	45	*	46	*	*	46 
06:00	*	*	46	50	*	48	*	*	48 
07:00	*	*	51	36	*	44	*	*	44 
08:00	*	*	31	32	*	32	*	*	32 
09:00	*	*	29	28	*	28	*	*	28 
10:00	*	*	20	17	*	18	*	*	18 
11:00	*	*	9	7	*	8	*	*	8 
Day Total	0	0	619	613	0	617	0	0	617
% Avg. WkDay	0.0%	0.0%	100.3%	99.4%	0.0%				
% Avg. Week	0.0%	0.0%	100.3%	99.4%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.			07:00 42	09:00 45		07:00 40			07:00 40
PM Peak Vol.			19:00 51	18:00 50		18:00 48			18:00 48
Grand Total	0	0	619	613	0	617	0	0	617
ADT	ADT 616		AADT 616						

Page 1

Site Code: 14720016
14720S16

[illegible]

Accurate Counts **978-664-2565**

Location : Melrose Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 18430
Northbound

Site Code: 14720016
14720S16

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	1	4	2	0	0	0	0	0	0	0	0	0	0	7	18-27	7
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	2	0	3	3	1	0	0	0	0	0	0	0	0	0	9	22-31	7
06:00	3	0	6	1	1	0	0	0	0	0	0	0	0	0	11	21-30	7
07:00	9	5	12	6	4	1	0	0	0	0	0	0	0	0	37	17-26	18
08:00	8	6	17	7	1	0	0	0	0	0	0	0	0	0	39	18-27	25
09:00	12	14	15	4	0	0	0	0	0	0	0	0	0	0	45	16-25	29
10:00	19	11	9	1	0	0	0	0	0	0	0	0	0	0	40	15-24	20
11:00	10	6	6	0	0	0	0	0	0	0	0	0	0	0	22	16-25	12
12 PM	13	13	13	3	0	0	0	0	0	0	0	0	0	0	42	16-25	26
13:00	10	10	11	1	1	0	0	0	0	0	0	0	0	0	33	16-25	21
14:00	10	10	17	7	1	0	0	0	0	0	0	0	0	0	45	16-25	27
15:00	9	4	19	4	1	0	0	0	0	0	0	0	0	0	37	17-26	24
16:00	1	5	15	7	2	0	0	0	0	0	0	0	0	0	30	18-27	22
17:00	4	8	15	13	5	0	0	0	0	0	0	0	0	0	45	19-28	28
18:00	3	6	22	15	4	0	0	0	0	0	0	0	0	0	50	21-30	37
19:00	3	4	18	11	0	0	0	0	0	0	0	0	0	0	36	21-30	29
20:00	1	4	12	11	4	0	0	0	0	0	0	0	0	0	32	21-30	23
21:00	3	4	6	12	3	0	0	0	0	0	0	0	0	0	28	21-30	18
22:00	2	7	3	5	0	0	0	0	0	0	0	0	0	0	17	14-23	10
23:00	1	1	3	2	0	0	0	0	0	0	0	0	0	0	7	18-27	6
Total	124	119	226	115	28	1	0	0	0	0	0	0	0	0	613		
Percent	20.2%	19.4%	36.9%	18.8%	4.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	09:00	08:00	08:00	07:00	07:00										09:00	
Vol.	19	14	17	7	4	1										45	
PM Peak	12:00	12:00	18:00	18:00	17:00											18:00	
Vol.	13	13	22	15	5											50	
Total	269	258	423	225	53	4	0	0	0	0	0	0	0	0	1232		
Percent	21.8%	20.9%	34.3%	18.3%	4.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 11 MPH
50th Percentile : 22 MPH
85th Percentile : 28 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 681
Percent in Pace : 55.3%
Number of Vehicles > 20 MPH : 705
Percent of Vehicles > 20 MPH : 57.2%
Mean Speed(Average) : 20 MPH

Accurate Counts

978-664-2565

Location : Herbert Road South of
 Location : Lake Street
 City/State: Arlington, MA
 Counter : 5846
























Site Code: 14720017
 14720V17

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	1	16	2	28	*	*	2	22
12:15	2	13	3	24	*	*	2	18
12:30	3	17	0	13	*	*	2	15
12:45	0	17	2	19	*	*	1	18
01:00	0	10	0	29	*	*	0	20
01:15	0	14	0	22	*	*	0	18
01:30	0	18	1	30	*	*	0	24
01:45	0	22	1	28	*	*	0	25
02:00	0	13	0	31	*	*	0	22
02:15	0	32	1	35	*	*	0	34
02:30	1	22	0	33	*	*	0	28
02:45	0	18	0	40	*	*	0	29
03:00	0	30	0	24	*	*	0	27
03:15	0	16	0	22	*	*	0	19
03:30	0	14	0	34	*	*	0	24
03:45	0	14	0	28	*	*	0	21
04:00	0	12	2	23	*	*	1	18
04:15	1	16	1	18	*	*	1	17
04:30	0	16	0	27	*	*	0	22
04:45	0	17	0	32	*	*	0	24
05:00	1	28	2	26	*	*	2	27
05:15	1	29	3	21	*	*	2	25
05:30	3	25	3	18	*	*	3	22
05:45	4	21	5	19	*	*	4	20
06:00	2	22	3	29	*	*	2	26
06:15	6	12	9	21	*	*	8	16
06:30	15	30	12	13	*	*	14	22
06:45	14	25	16	30	*	*	15	28
07:00	24	27	22	20	*	*	23	24
07:15	19	18	25	22	*	*	22	20
07:30	28	18	32	15	*	*	30	16
07:45	29	20	31	16	*	*	30	18
08:00	48	16	40	11	*	*	44	14
08:15	29	11	37	16	*	*	33	14
08:30	19	9	22	11	*	*	20	10
08:45	24	11	21	9	*	*	22	10
09:00	22	12	19	8	*	*	20	10
09:15	16	6	20	13	*	*	18	10
09:30	14	7	22	9	*	*	18	8
09:45	24	9	32	4	*	*	28	6
10:00	17	5	13	13	*	*	15	9
10:15	22	11	22	6	*	*	22	8
10:30	13	2	19	7	*	*	16	4
10:45	14	2	20	12	*	*	17	7
11:00	20	3	18	5	*	*	19	4
11:15	15	0	21	0	*	*	18	0
11:30	22	2	18	3	*	*	20	2
11:45	11	2	16	4	*	*	14	3
Total	484	730	536	921	0	0	508	828
Combined Total	1214		1457		0		1336	
Peak	07:30	05:00	07:30	02:00			07:30	02:15
Vol.	134	103	140	139			137	118
P.H.F.	0.698	0.858	0.875	0.869			0.778	0.868
ADT		ADT 1,336	AADT 1,336					

Accurate Counts
978-664-2565

Location : Herbert Road South of
Location : Lake Street
City/State: Arlington, MA
Counter : 5846

Site Code: 14720017
14720V17

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	6	7	*	6	*	*	6 
01:00	*	*	0	2	*	1	*	*	1 
02:00	*	*	1	1	*	1	*	*	1 
03:00	*	*	0	0	*	0	*	*	0
04:00	*	*	1	3	*	2	*	*	2 
05:00	*	*	9	13	*	11	*	*	11 
06:00	*	*	37	40	*	38	*	*	38 
07:00	*	*	100	110	*	105	*	*	105 
08:00	*	*	120	120	*	120	*	*	120 
09:00	*	*	76	93	*	84	*	*	84 
10:00	*	*	66	74	*	70	*	*	70 
11:00	*	*	68	73	*	70	*	*	70 
12:00 PM	*	*	63	84	*	74	*	*	74 
01:00	*	*	64	109	*	86	*	*	86 
02:00	*	*	85	139	*	112	*	*	112 
03:00	*	*	74	108	*	91	*	*	91 
04:00	*	*	61	100	*	80	*	*	80 
05:00	*	*	103	84	*	94	*	*	94 
06:00	*	*	89	93	*	91	*	*	91 
07:00	*	*	83	73	*	78	*	*	78 
08:00	*	*	47	47	*	47	*	*	47 
09:00	*	*	34	34	*	34	*	*	34 
10:00	*	*	20	38	*	29	*	*	29 
11:00	*	*	7	12	*	10	*	*	10 
Day Total	0	0	1214	1457	0	1334	0	0	1334
% Avg. WkDay	0.0%	0.0%	91.0%	109.2%	0.0%				
% Avg. Week	0.0%	0.0%	91.0%	109.2%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			120	120		120			120
PM Peak			17:00	14:00		14:00			14:00
Vol.			103	139		112			112
Grand Total	0	0	1214	1457	0	1334	0	0	1334
ADT	ADT 1,336		AADT 1,336						

Accurate Counts
978-664-2565

Location : Herbert Road South of
Location : Lake Street
City/State: Arlington, MA
Counter : 5846
Northbound

Site Code: 14720017
14720S17

[illegible]

Accurate Counts 978-664-2565

Location : Herbert Road South of
Location : Lake Street
City/State: Arlington, MA
Counter : 5846
Northbound

Site Code: 14720017
14720S17

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	2	1	1	3	0	0	0	0	0	0	0	0	0	0	7	19-28	5
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	12-21	2
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17-26	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	13-22	2
05:00	1	0	5	4	3	0	0	0	0	0	0	0	0	0	13	20-29	9
06:00	8	2	15	12	3	0	0	0	0	0	0	0	0	0	40	21-30	27
07:00	20	21	45	19	5	0	0	0	0	0	0	0	0	0	110	16-25	66
08:00	39	33	35	12	1	0	0	0	0	0	0	0	0	0	120	16-25	68
09:00	15	26	37	14	1	0	0	0	0	0	0	0	0	0	93	16-25	63
10:00	13	27	25	8	1	0	0	0	0	0	0	0	0	0	74	16-25	52
11:00	13	18	35	7	0	0	0	0	0	0	0	0	0	0	73	16-25	53
12 PM	19	21	34	10	0	0	0	0	0	0	0	0	0	0	84	16-25	55
13:00	40	34	28	7	0	0	0	0	0	0	0	0	0	0	109	16-25	62
14:00	72	47	18	2	0	0	0	0	0	0	0	0	0	0	139	11-20	69
15:00	39	22	33	14	0	0	0	0	0	0	0	0	0	0	108	16-25	55
16:00	29	15	46	10	0	0	0	0	0	0	0	0	0	0	100	16-25	61
17:00	13	13	41	15	2	0	0	0	0	0	0	0	0	0	84	18-27	56
18:00	8	15	46	23	1	0	0	0	0	0	0	0	0	0	93	21-30	69
19:00	9	27	26	11	0	0	0	0	0	0	0	0	0	0	73	16-25	53
20:00	2	12	23	10	0	0	0	0	0	0	0	0	0	0	47	16-25	35
21:00	3	8	20	3	0	0	0	0	0	0	0	0	0	0	34	16-25	28
22:00	10	2	20	5	1	0	0	0	0	0	0	0	0	0	38	19-28	25
23:00	1	1	6	3	1	0	0	0	0	0	0	0	0	0	12	19-28	10
Total	357	346	542	193	19	0	0	0	0	0	0	0	0	0	1457		
Percent	24.5%	23.7%	37.2%	13.2%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	07:00	07:00											08:00	
Vol.	39	33	45	19	5											120	
PM Peak	14:00	14:00	16:00	18:00	17:00											14:00	
Vol.	72	47	46	23	2											139	
Total	603	702	968	365	32	1	0	0	0	0	0	0	0	0	2671		
Percent	22.6%	26.3%	36.2%	13.7%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 11 MPH
50th Percentile : 21 MPH
85th Percentile : 25 MPH
95th Percentile : 29 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 1670
Percent in Pace : 62.5%
Number of Vehicles > 20 MPH : 1366
Percent of Vehicles > 20 MPH : 51.1%
Mean Speed(Average) : 19 MPH

Accurate Counts
978-664-2565

Location : Broadway West of
Location : Bates Street
City/State: Arlington, MA
Counter : 16431

Site Code: 14720018
14720V18

Start Time	26-May-10 Wed	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		6	89			11	85				
12:15		9	106			9	79				
12:30		4	97			4	78				
12:45		2	116	21	408	12	69	36	311	57	719
01:00		7	96			8	71				
01:15		6	90			6	83				
01:30		1	99			3	73				
01:45		0	87	14	372	3	67	20	294	34	666
02:00		1	104			4	63				
02:15		2	83			5	66				
02:30		0	100			3	69				
02:45		4	107	7	394	5	64	17	262	24	656
03:00		2	103			0	75				
03:15		2	111			2	59				
03:30		1	101			5	81				
03:45		3	99	8	414	3	73	10	288	18	702
04:00		3	93			4	76				
04:15		4	87			2	79				
04:30		5	131			7	70				
04:45		4	128	16	439	7	78	20	303	36	742
05:00		13	129			11	59				
05:15		11	132			10	70				
05:30		13	148			16	72				
05:45		19	129	56	538	16	74	53	275	109	813
06:00		19	121			21	83				
06:15		28	133			34	65				
06:30		46	146			42	56				
06:45		64	136	157	536	70	62	167	266	324	802
07:00		65	133			77	67				
07:15		81	111			91	61				
07:30		90	83			120	53				
07:45		77	114	313	441	112	42	400	223	713	664
08:00		87	88			108	60				
08:15		97	81			94	53				
08:30		87	58			79	55				
08:45		107	68	378	295	111	39	392	207	770	502
09:00		92	70			100	35				
09:15		83	68			98	46				
09:30		91	69			88	39				
09:45		84	54	350	261	77	37	363	157	713	418
10:00		68	39			72	42				
10:15		0	52			0	31				
10:30		0	28			0	40				
10:45		100	27	168	146	67	24	139	137	307	283
11:00		104	31			70	16				
11:15		88	27			86	21				
11:30		100	30			81	33				
11:45		94	19	386	107	109	22	346	92	732	199
Total		1874	4351			1963	2815			3837	7166
Percent		30.1%	69.9%			41.1%	58.9%			34.9%	65.1%

Accurate Counts
978-664-2565

Location : Broadway West of
Location : Bates Street
City/State: Arlington, MA
Counter : 16431

Site Code: 14720018
14720V18

Start Time	27-May-10 Thu	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	83			16	84				
12:15		9	90			19	89				
12:30		11	82			9	83				
12:45		6	99	43	354	14	86	58	342	101	696
01:00		4	104			15	78				
01:15		0	107			3	71				
01:30		5	68			7	74				
01:45		3	84	12	363	6	81	31	304	43	667
02:00		2	90			3	83				
02:15		1	99			4	75				
02:30		0	117			2	74				
02:45		1	111	4	417	5	73	14	305	18	722
03:00		5	92			3	109				
03:15		5	109			10	100				
03:30		6	139			7	113				
03:45		1	119	17	459	4	89	24	411	41	870
04:00		5	106			1	125				
04:15		4	150			2	106				
04:30		7	132			8	104				
04:45		13	140	29	528	8	132	19	467	48	995
05:00		6	138			5	102				
05:15		15	123			18	113				
05:30		19	130			18	97				
05:45		25	150	65	541	11	118	52	430	117	971
06:00		32	141			18	114				
06:15		51	182			35	124				
06:30		72	139			44	102				
06:45		101	143	256	605	47	106	144	446	400	1051
07:00		119	138			44	94				
07:15		155	111			57	88				
07:30		107	85			66	101				
07:45		172	95	553	429	73	80	240	363	793	792
08:00		125	80			61	75				
08:15		158	85			87	69				
08:30		183	81			60	71				
08:45		146	59	612	305	73	59	281	274	893	579
09:00		160	83			65	60				
09:15		138	76			60	57				
09:30		115	68			50	50				
09:45		124	42	537	269	52	48	227	215	764	484
10:00		110	40			65	42				
10:15		118	46			48	60				
10:30		85	39			61	29				
10:45		71	35	384	160	69	49	243	180	627	340
11:00		101	19			64	33				
11:15		80	28			68	25				
11:30		78	17			78	27				
11:45		91	12	350	76	81	18	291	103	641	179
Total		2862	4506			1624	3840			4486	8346
Percent		38.8%	61.2%			29.7%	70.3%			35.0%	65.0%
Grand Total		4736	8857			3587	6655			8323	15512
Percent		34.8%	65.2%			35.0%	65.0%			34.9%	65.1%

ADT

ADT 11,918

AADT 11,918

Accurate Counts
978-664-2565

Location : Broadway West of
Location : Bates Street
City/State: Arlington, MA
Counter : 16431

Site Code: 14720018
14720V18

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	21	36	43	58	*	*	*	*	*	*	32	47
01:00	*	*	*	*	14	20	12	31	*	*	*	*	*	*	13	26
02:00	*	*	*	*	7	17	4	14	*	*	*	*	*	*	6	16
03:00	*	*	*	*	8	10	17	24	*	*	*	*	*	*	12	17
04:00	*	*	*	*	16	20	29	19	*	*	*	*	*	*	22	20
05:00	*	*	*	*	56	53	65	52	*	*	*	*	*	*	60	52
06:00	*	*	*	*	157	167	256	144	*	*	*	*	*	*	206	156
07:00	*	*	*	*	313	400	553	240	*	*	*	*	*	*	433	320
08:00	*	*	*	*	378	392	612	281	*	*	*	*	*	*	495	336
09:00	*	*	*	*	350	363	537	227	*	*	*	*	*	*	444	295
10:00	*	*	*	*	168	139	384	243	*	*	*	*	*	*	276	191
11:00	*	*	*	*	386	346	350	291	*	*	*	*	*	*	368	318
12:00 PM	*	*	*	*	408	311	354	342	*	*	*	*	*	*	381	326
01:00	*	*	*	*	372	294	363	304	*	*	*	*	*	*	368	299
02:00	*	*	*	*	394	262	417	305	*	*	*	*	*	*	406	284
03:00	*	*	*	*	414	288	459	411	*	*	*	*	*	*	436	350
04:00	*	*	*	*	439	303	528	467	*	*	*	*	*	*	484	385
05:00	*	*	*	*	538	275	541	430	*	*	*	*	*	*	540	352
06:00	*	*	*	*	536	266	605	446	*	*	*	*	*	*	570	356
07:00	*	*	*	*	441	223	429	363	*	*	*	*	*	*	435	293
08:00	*	*	*	*	295	207	305	274	*	*	*	*	*	*	300	240
09:00	*	*	*	*	261	157	269	215	*	*	*	*	*	*	265	186
10:00	*	*	*	*	146	137	160	180	*	*	*	*	*	*	153	158
11:00	*	*	*	*	107	92	76	103	*	*	*	*	*	*	92	98
Lane	0	0	0	0	6225	4778	7368	5464	0	0	0	0	0	0	6797	5121
Day	0		0		11003		12832		0		0		0		11918	
AM Peak					11:00	07:00	08:00	11:00							08:00	08:00
Vol.					386	400	612	291							495	336
PM Peak					17:00	12:00	18:00	16:00							18:00	16:00
Vol.					538	311	605	467							570	385

Comb. Total	0	0	11003	12832	0	0	0	11918
ADT	ADT 11,918	AADT 11,918						

Accurate Counts **978-664-2565**

Location : Broadway West of
Location : Bates Street
City/State: Arlington, MA
Counter : 16431
Westbound

Site Code: 14720018
14720S18

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/26/10	0	0	1	4	9	4	2	1	0	0	0	0	0	0	21	27-36	14
01:00	0	0	2	6	4	2	0	0	0	0	0	0	0	0	14	24-33	11
02:00	0	0	1	2	2	1	0	0	1	0	0	0	0	0	7	23-32	5
03:00	0	0	0	1	6	0	1	0	0	0	0	0	0	0	8	26-35	7
04:00	0	0	0	6	7	2	1	0	0	0	0	0	0	0	16	26-35	13
05:00	4	0	5	20	15	9	2	1	0	0	0	0	0	0	56	26-35	35
06:00	11	5	17	43	58	19	3	1	0	0	0	0	0	0	157	26-35	101
07:00	40	11	35	122	79	24	2	0	0	0	0	0	0	0	313	26-35	201
08:00	68	25	83	149	50	3	0	0	0	0	0	0	0	0	378	21-30	232
09:00	43	9	62	143	66	26	1	0	0	0	0	0	0	0	350	24-33	209
10:00	9	4	18	47	60	23	7	0	0	0	0	0	0	0	168	26-35	107
11:00	35	9	50	73	122	79	16	2	0	0	0	0	0	0	386	30-39	201
12 PM	26	4	38	100	133	89	17	1	0	0	0	0	0	0	408	26-35	233
13:00	66	29	60	65	79	65	7	0	1	0	0	0	0	0	372	26-35	144
14:00	108	58	97	100	23	5	3	0	0	0	0	0	0	0	394	21-30	197
15:00	120	55	106	63	42	16	9	2	1	0	0	0	0	0	414	21-30	169
16:00	98	42	96	102	61	23	13	4	0	0	0	0	0	0	439	21-30	198
17:00	132	51	134	113	63	34	8	2	0	0	0	1	0	0	538	21-30	247
18:00	109	65	119	120	78	36	8	1	0	0	0	0	0	0	536	21-30	239
19:00	103	42	125	91	44	25	9	1	0	0	0	0	0	1	441	21-30	216
20:00	51	42	82	69	28	18	5	0	0	0	0	0	0	0	295	21-30	151
21:00	50	19	65	61	32	26	7	1	0	0	0	0	0	0	261	21-30	126
22:00	23	15	40	32	23	8	4	1	0	0	0	0	0	0	146	21-30	72
23:00	30	10	28	26	7	4	2	0	0	0	0	0	0	0	107	21-30	54
Total	1126	495	1264	1558	1091	541	127	18	3	0	0	1	0	1	6225		
Percent	18.1%	8.0%	20.3%	25.0%	17.5%	8.7%	2.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	11:00	11:00	11:00	11:00	02:00								11:00
Vol.	68	25	83	149	122	79	16	2	1								386
PM Peak	17:00	18:00	17:00	18:00	12:00	12:00	12:00	16:00	13:00			17:00		19:00			17:00
Vol.	132	65	134	120	133	89	17	4	1			1		1			538

Accurate Counts 978-664-2565

Location : Broadway West of
Location : Bates Street
City/State: Arlington, MA
Counter : 16431
Westbound

Site Code: 14720018
14720S18

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	9	7	8	11	5	2	0	1	0	0	0	0	0	0	43	19-28	19
01:00	3	0	0	8	1	0	0	0	0	0	0	0	0	0	12	22-31	9
02:00	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15-24	4
03:00	2	0	6	4	4	0	1	0	0	0	0	0	0	0	17	21-30	10
04:00	6	0	8	9	3	3	0	0	0	0	0	0	0	0	29	21-30	17
05:00	10	8	10	18	10	3	5	1	0	0	0	0	0	0	65	21-30	28
06:00	71	28	61	61	23	11	1	0	0	0	0	0	0	0	256	21-30	122
07:00	154	76	152	116	41	10	3	1	0	0	0	0	0	0	553	21-30	268
08:00	194	121	151	104	29	12	1	0	0	0	0	0	0	0	612	16-25	272
09:00	157	79	131	115	39	14	0	2	0	0	0	0	0	0	537	21-30	246
10:00	92	52	99	98	32	8	2	1	0	0	0	0	0	0	384	21-30	197
11:00	34	7	40	83	111	61	11	3	0	0	0	0	0	0	350	26-35	194
12 PM	20	5	41	103	105	66	12	1	0	1	0	0	0	0	354	26-35	208
13:00	26	8	34	119	115	49	8	4	0	0	0	0	0	0	363	26-35	234
14:00	24	13	60	127	136	49	8	0	0	0	0	0	0	0	417	26-35	263
15:00	39	11	47	146	169	42	4	1	0	0	0	0	0	0	459	26-35	315
16:00	44	8	41	163	174	83	14	1	0	0	0	0	0	0	528	26-35	337
17:00	47	15	53	141	183	82	16	4	0	0	0	0	0	0	541	26-35	324
18:00	41	17	60	189	203	80	14	1	0	0	0	0	0	0	605	26-35	392
19:00	16	11	39	110	150	83	20	0	0	0	0	0	0	0	429	26-35	260
20:00	19	9	24	74	111	60	6	2	0	0	0	0	0	0	305	26-35	185
21:00	15	7	26	63	93	50	13	2	0	0	0	0	0	0	269	26-35	156
22:00	7	0	11	41	50	39	12	0	0	0	0	0	0	0	160	26-35	91
23:00	1	3	6	8	30	24	4	0	0	0	0	0	0	0	76	31-40	54
Total	1031	485	1112	1911	1817	831	155	25	0	1	0	0	0	0	7368		
Percent	14.0%	6.6%	15.1%	25.9%	24.7%	11.3%	2.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	07:00	11:00	11:00	11:00	11:00								08:00	
Vol.	194	121	152	116	111	61	11	3								612	
PM Peak	17:00	18:00	14:00	18:00	18:00	16:00	19:00	13:00		12:00						18:00	
Vol.	47	17	60	189	203	83	20	4		1						605	
Total	2157	980	2376	3469	2908	1372	282	43	3	1	0	1	0	1	13593		
Percent	15.9%	7.2%	17.5%	25.5%	21.4%	10.1%	2.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 15 MPH
50th Percentile : 27 MPH
85th Percentile : 35 MPH
95th Percentile : 39 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 6377
Percent in Pace : 46.9%
Number of Vehicles > 25 MPH : 8080
Percent of Vehicles > 25 MPH : 59.4%
Mean Speed(Average) : 26 MPH

Accurate Counts **978-664-2565**

Location : Broadway West of
Location : Bates Street
City/State: Arlington, MA
Counter : 16431
Eastbound

Site Code: 14720018
14720S18

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
		20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	58	0	0	0	0	0	0	0	0	0	0	0	0	0	58	1-10	40
01:00	31	0	0	0	0	0	0	0	0	0	0	0	0	0	31	1-10	21
02:00	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14	1-10	10
03:00	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24	1-10	19
04:00	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19	1-10	14
05:00	52	0	0	0	0	0	0	0	0	0	0	0	0	0	52	1-10	37
06:00	143	1	0	0	0	0	0	0	0	0	0	0	0	0	144	1-10	98
07:00	239	0	0	0	0	1	0	0	0	0	0	0	0	0	240	1-10	160
08:00	279	1	0	0	1	0	0	0	0	0	0	0	0	0	281	1-10	189
09:00	225	1	0	0	1	0	0	0	0	0	0	0	0	0	227	1-10	150
10:00	240	0	1	0	2	0	0	0	0	0	0	0	0	0	243	1-10	160
11:00	20	7	9	40	88	86	37	4	0	0	0	0	0	0	291	31-40	174
12 PM	29	4	6	34	110	110	41	7	1	0	0	0	0	0	342	31-40	220
13:00	23	4	6	35	112	92	27	5	0	0	0	0	0	0	304	31-40	204
14:00	17	3	14	19	126	90	33	2	1	0	0	0	0	0	305	31-40	216
15:00	24	4	18	72	152	112	25	4	0	0	0	0	0	0	411	31-40	264
16:00	46	9	21	56	140	129	56	8	2	0	0	0	0	0	467	31-40	269
17:00	34	5	10	46	136	150	42	7	0	0	0	0	0	0	430	31-40	286
18:00	47	15	20	54	126	129	43	9	3	0	0	0	0	0	446	31-40	255
19:00	17	7	10	48	122	106	46	3	4	0	0	0	0	0	363	31-40	228
20:00	14	2	2	21	98	89	36	9	2	0	1	0	0	0	274	31-40	187
21:00	10	0	1	20	80	69	31	4	0	0	0	0	0	0	215	31-40	149
22:00	1	0	0	8	47	71	40	10	2	0	1	0	0	0	180	31-40	118
23:00	4	1	3	5	27	36	19	8	0	0	0	0	0	0	103	31-40	63
Total	1610	64	121	458	1368	1270	476	80	15	0	2	0	0	0	5464		
Percent	29.5%	1.2%	2.2%	8.4%	25.0%	23.2%	8.7%	1.5%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00							11:00		
Vol.	279	7	9	40	88	86	37	4							291		
PM Peak	18:00	18:00	16:00	15:00	15:00	17:00	16:00	22:00	19:00		20:00				16:00		
Vol.	47	15	21	72	152	150	56	10	4		1				467		
Total	4448	339	423	858	1826	1635	594	101	15	1	2	0	0	0	10242		
Percent	43.4%	3.3%	4.1%	8.4%	17.8%	16.0%	5.8%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 6 MPH
50th Percentile : 24 MPH
85th Percentile : 38 MPH
95th Percentile : 42 MPH

Stats
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 3461
Percent in Pace : 33.8%
Number of Vehicles > 25 MPH : 5032
Percent of Vehicles > 25 MPH : 49.1%
Mean Speed(Average) : 22 MPH

Accurate Counts **978-664-2565**

Location : Broadway West of
Location : Bates Street
City/State: Arlington, MA
Counter : 16431
Westbound, Eastbound

Site Code: 14720018
14720S18

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/26/10	0	0	10	15	19	7	5	1	0	0	0	0	0	0	57	26-35	34
01:00	1	2	4	8	8	9	1	1	0	0	0	0	0	0	34	28-37	18
02:00	0	1	5	5	6	4	2	0	1	0	0	0	0	0	24	22-31	11
03:00	1	0	3	4	8	1	1	0	0	0	0	0	0	0	18	24-33	12
04:00	0	3	1	7	14	4	5	2	0	0	0	0	0	0	36	26-35	21
05:00	4	3	9	32	31	20	5	5	0	0	0	0	0	0	109	26-35	63
06:00	27	17	51	76	93	44	13	2	0	1	0	0	0	0	324	26-35	169
07:00	156	81	102	204	128	39	3	0	0	0	0	0	0	0	713	26-35	332
08:00	246	115	136	198	65	10	0	0	0	0	0	0	0	0	770	21-30	334
09:00	157	57	133	223	106	35	2	0	0	0	0	0	0	0	713	21-30	356
10:00	23	17	35	70	100	44	17	1	0	0	0	0	0	0	307	26-35	170
11:00	67	28	71	123	212	178	50	3	0	0	0	0	0	0	732	31-40	390
12 PM	54	10	45	133	228	188	53	8	0	0	0	0	0	0	719	31-40	416
13:00	198	35	68	83	130	127	20	4	1	0	0	0	0	0	666	31-40	257
14:00	370	58	97	100	23	5	3	0	0	0	0	0	0	0	656	1-10	250
15:00	407	55	107	63	42	16	9	2	1	0	0	0	0	0	702	1-10	272
16:00	401	42	96	102	61	23	13	4	0	0	0	0	0	0	742	1-10	270
17:00	406	52	134	113	63	34	8	2	0	0	0	1	0	0	813	1-10	271
18:00	374	66	119	120	78	36	8	1	0	0	0	0	0	0	802	1-10	250
19:00	325	42	125	91	44	26	9	1	0	0	0	0	0	1	664	1-10	220
20:00	258	42	82	69	28	18	5	0	0	0	0	0	0	0	502	1-10	173
21:00	207	19	65	61	32	26	7	1	0	0	0	0	0	0	418	1-10	140
22:00	160	15	40	32	23	8	4	1	0	0	0	0	0	0	283	1-10	110
23:00	122	10	28	26	7	4	2	0	0	0	0	0	0	0	199	1-10	82
Total	3964	770	1566	1958	1549	906	245	39	3	1	0	1	0	1	11003		
Percent	36.0%	7.0%	14.2%	17.8%	14.1%	8.2%	2.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	09:00	11:00	11:00	11:00	05:00	02:00	06:00					08:00		
Vol.	246	115	136	223	212	178	50	5	1	1					770		
PM Peak	15:00	18:00	17:00	12:00	12:00	12:00	12:00	12:00	13:00			17:00		19:00	17:00		
Vol.	407	66	134	133	228	188	53	8	1			1		1	813		

Accurate Counts **978-664-2565**

Location : Broadway West of
Location : Bates Street
City/State: Arlington, MA
Counter : 16431
Westbound, Eastbound

Site Code: 14720018
14720S18

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	67	7	8	11	5	2	0	1	0	0	0	0	0	0	101	1-10	47
01:00	34	0	0	8	1	0	0	0	0	0	0	0	0	0	43	1-10	24
02:00	14	0	4	0	0	0	0	0	0	0	0	0	0	0	18	1-10	10
03:00	26	0	6	4	4	0	1	0	0	0	0	0	0	0	41	1-10	20
04:00	25	0	8	9	3	3	0	0	0	0	0	0	0	0	48	1-10	20
05:00	62	8	10	18	10	3	5	1	0	0	0	0	0	0	117	1-10	42
06:00	214	29	61	61	23	11	1	0	0	0	0	0	0	0	400	1-10	144
07:00	393	76	152	116	41	11	3	1	0	0	0	0	0	0	793	21-30	268
08:00	473	122	151	104	30	12	1	0	0	0	0	0	0	0	893	1-10	318
09:00	382	80	131	115	40	14	0	2	0	0	0	0	0	0	764	1-10	257
10:00	332	52	100	98	34	8	2	1	0	0	0	0	0	0	627	1-10	222
11:00	54	14	49	123	199	147	48	7	0	0	0	0	0	0	641	31-40	346
12 PM	49	9	47	137	215	176	53	8	1	1	0	0	0	0	696	31-40	391
13:00	49	12	40	154	227	141	35	9	0	0	0	0	0	0	667	26-35	381
14:00	41	16	74	146	262	139	41	2	1	0	0	0	0	0	722	26-35	408
15:00	63	15	65	218	321	154	29	5	0	0	0	0	0	0	870	26-35	539
16:00	90	17	62	219	314	212	70	9	2	0	0	0	0	0	995	26-35	533
17:00	81	20	63	187	319	232	58	11	0	0	0	0	0	0	971	31-40	551
18:00	88	32	80	243	329	209	57	10	3	0	0	0	0	0	1051	26-35	572
19:00	33	18	49	158	272	189	66	3	4	0	0	0	0	0	792	31-40	461
20:00	33	11	26	95	209	149	42	11	2	0	1	0	0	0	579	31-40	358
21:00	25	7	27	83	173	119	44	6	0	0	0	0	0	0	484	31-40	292
22:00	8	0	11	49	97	110	52	10	2	0	1	0	0	0	340	31-40	207
23:00	5	4	9	13	57	60	23	8	0	0	0	0	0	0	179	31-40	117
Total	2641	549	1233	2369	3185	2101	631	105	15	1	2	0	0	0	12832		
Percent	20.6%	4.3%	9.6%	18.5%	24.8%	16.4%	4.9%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	07:00	11:00	11:00	11:00	11:00	11:00							08:00		
Vol.	473	122	152	123	199	147	48	7							893		
PM Peak	16:00	18:00	18:00	18:00	18:00	17:00	16:00	17:00	19:00	12:00	20:00				18:00		
Vol.	90	32	80	243	329	232	70	11	4	1	1				1051		
Total	6605	1319	2799	4327	4734	3007	876	144	18	2	2	1	0	1	23835		
Percent	27.7%	5.5%	11.7%	18.2%	19.9%	12.6%	3.7%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 9 MPH
50th Percentile : 27 MPH
85th Percentile : 36 MPH
95th Percentile : 40 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 9061
Percent in Pace : 38.0%
Number of Vehicles > 25 MPH : 13112
Percent of Vehicles > 25 MPH : 55.0%
Mean Speed(Average) : 24 MPH

Accurate Counts
978-664-2565

Location : Broadway East of
Location : Everett Street
City/State: Arlington, MA
Counter : 16432

Site Code: 1472019
14720V19

Start Time	26-May-10 Wed	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	85			7	74				
12:15		6	86			8	96				
12:30		9	77			6	76				
12:45		7	77	35	325	2	86	23	332	58	657
01:00		8	80			10	86				
01:15		9	83			6	81				
01:30		1	80			0	74				
01:45		3	88	21	331	1	83	17	324	38	655
02:00		4	80			1	81				
02:15		3	75			3	76				
02:30		3	88			2	69				
02:45		4	80	14	323	2	57	8	283	22	606
03:00		0	78			2	96				
03:15		3	101			2	81				
03:30		3	106			1	73				
03:45		2	89	8	374	3	92	8	342	16	716
04:00		5	93			5	100				
04:15		3	117			4	70				
04:30		4	95			4	94				
04:45		6	109	18	414	2	94	15	358	33	772
05:00		13	103			13	107				
05:15		7	108			9	122				
05:30		11	132			13	116				
05:45		18	123	49	466	15	101	50	446	99	912
06:00		23	110			18	95				
06:15		36	107			29	112				
06:30		43	99			51	100				
06:45		60	93	162	409	61	98	159	405	321	814
07:00		72	95			60	79				
07:15		71	82			88	75				
07:30		109	83			104	70				
07:45		116	70	368	330	99	66	351	290	719	620
08:00		104	78			114	64				
08:15		89	67			122	69				
08:30		101	56			130	55				
08:45		117	53	411	254	126	65	492	253	903	507
09:00		94	47			98	56				
09:15		90	61			91	44				
09:30		95	42			89	45				
09:45		70	37	349	187	74	40	352	185	701	372
10:00		66	41			54	28				
10:15		94	36			61	38				
10:30		79	35			68	28				
10:45		75	28	314	140	91	20	274	114	588	254
11:00		76	16			87	26				
11:15		78	21			65	24				
11:30		79	21			80	14				
11:45		112	15	345	73	60	10	292	74	637	147
Total		2094	3626			2041	3406			4135	7032
Percent		36.6%	63.4%			37.5%	62.5%			37.0%	63.0%

Accurate Counts
978-664-2565

Location : Broadway East of
Location : Everett Street
City/State: Arlington, MA
Counter : 16432

Site Code: 1472019
14720V19

Start Time	27-May-10 Thu	WB		Hour Totals		EB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	84			11	66				
12:15		11	91			5	78				
12:30		9	97			5	70				
12:45		10	87	43	359	1	76	22	290	65	649
01:00		11	80			4	91				
01:15		5	74			0	83				
01:30		7	98			4	63				
01:45		5	94	28	346	1	73	9	310	37	656
02:00		2	87			2	68				
02:15		3	80			0	88				
02:30		2	87			3	80				
02:45		4	88	11	342	2	82	7	318	18	660
03:00		1	100			1	82				
03:15		8	107			3	75				
03:30		6	116			3	78				
03:45		5	101	20	424	1	88	8	323	28	747
04:00		2	109			2	84				
04:15		1	111			3	103				
04:30		7	91			4	87				
04:45		6	122	16	433	5	110	14	384	30	817
05:00		5	125			7	105				
05:15		13	122			7	101				
05:30		7	101			16	110				
05:45		14	122	39	470	15	121	45	437	84	907
06:00		22	120			22	106				
06:15		37	112			23	118				
06:30		50	100			45	114				
06:45		64	104	173	436	47	113	137	451	310	887
07:00		64	84			85	101				
07:15		87	92			96	87				
07:30		89	103			96	71				
07:45		82	70	322	349	112	65	389	324	711	673
08:00		86	74			107	67				
08:15		102	70			123	58				
08:30		106	59			131	56				
08:45		101	61	395	264	122	60	483	241	878	505
09:00		89	55			93	68				
09:15		81	54			95	47				
09:30		81	44			75	50				
09:45		80	43	331	196	84	39	347	204	678	400
10:00		84	33			70	33				
10:15		57	59			79	30				
10:30		74	27			63	25				
10:45		83	40	298	159	56	19	268	107	566	266
11:00		56	25			73	15				
11:15		84	26			65	13				
11:30		83	23			62	13				
11:45		84	20	307	94	76	5	276	46	583	140
Total		1983	3872			2005	3435			3988	7307
Percent		33.9%	66.1%			36.9%	63.1%			35.3%	64.7%
Grand Total		4077	7498			4046	6841			8123	14339
Percent		35.2%	64.8%			37.2%	62.8%			36.2%	63.8%

ADT

ADT 11,231

AADT 11,231

Accurate Counts
978-664-2565

Location : Broadway East of
Location : Everett Street
City/State: Arlington, MA
Counter : 16432

Site Code: 1472019
14720V19

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	35	23	43	22	*	*	*	*	*	*	39	22
01:00	*	*	*	*	21	17	28	9	*	*	*	*	*	*	24	13
02:00	*	*	*	*	14	8	11	7	*	*	*	*	*	*	12	8
03:00	*	*	*	*	8	8	20	8	*	*	*	*	*	*	14	8
04:00	*	*	*	*	18	15	16	14	*	*	*	*	*	*	17	14
05:00	*	*	*	*	49	50	39	45	*	*	*	*	*	*	44	48
06:00	*	*	*	*	162	159	173	137	*	*	*	*	*	*	168	148
07:00	*	*	*	*	368	351	322	389	*	*	*	*	*	*	345	370
08:00	*	*	*	*	411	492	395	483	*	*	*	*	*	*	403	488
09:00	*	*	*	*	349	352	331	347	*	*	*	*	*	*	340	350
10:00	*	*	*	*	314	274	298	268	*	*	*	*	*	*	306	271
11:00	*	*	*	*	345	292	307	276	*	*	*	*	*	*	326	284
12:00 PM	*	*	*	*	325	332	359	290	*	*	*	*	*	*	342	311
01:00	*	*	*	*	331	324	346	310	*	*	*	*	*	*	338	317
02:00	*	*	*	*	323	283	342	318	*	*	*	*	*	*	332	300
03:00	*	*	*	*	374	342	424	323	*	*	*	*	*	*	399	332
04:00	*	*	*	*	414	358	433	384	*	*	*	*	*	*	424	371
05:00	*	*	*	*	466	446	470	437	*	*	*	*	*	*	468	442
06:00	*	*	*	*	409	405	436	451	*	*	*	*	*	*	422	428
07:00	*	*	*	*	330	290	349	324	*	*	*	*	*	*	340	307
08:00	*	*	*	*	254	253	264	241	*	*	*	*	*	*	259	247
09:00	*	*	*	*	187	185	196	204	*	*	*	*	*	*	192	194
10:00	*	*	*	*	140	114	159	107	*	*	*	*	*	*	150	110
11:00	*	*	*	*	73	74	94	46	*	*	*	*	*	*	84	60
Lane	0	0	0	0	5720	5447	5855	5440	0	0	0	0	0	0	5788	5443
Day	0		0		11167		11295		0		0		0		11231	
AM Peak					08:00	08:00	08:00	08:00							08:00	08:00
Vol.					411	492	395	483							403	488
PM Peak					17:00	17:00	17:00	18:00							17:00	17:00
Vol.					466	446	470	451							468	442

Comb. Total	0	0	11167	11295	0	0	0	11231
ADT	ADT 11,231	AADT 11,231						

Accurate Counts **978-664-2565**

Location : Broadway East of
Location : Everett Street
City/State: Arlington, MA
Counter : 16432
Westbound

Site Code: 1472019
14720S19

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
														999			
5/27/10	0	3	3	13	14	9	1	0	0	0	0	0	0	0	43	26-35	27
01:00	1	0	2	7	14	4	0	0	0	0	0	0	0	0	28	26-35	21
02:00	0	0	1	2	2	4	2	0	0	0	0	0	0	0	11	33-42	8
03:00	1	0	0	2	8	5	4	0	0	0	0	0	0	0	20	29-38	13
04:00	1	0	1	5	4	2	2	1	0	0	0	0	0	0	16	25-34	10
05:00	0	3	8	11	10	5	2	0	0	0	0	0	0	0	39	23-32	21
06:00	8	10	24	51	52	22	6	0	0	0	0	0	0	0	173	26-35	103
07:00	24	22	53	113	92	16	2	0	0	0	0	0	0	0	322	26-35	205
08:00	55	32	86	132	83	6	1	0	0	0	0	0	0	0	395	21-30	218
09:00	37	28	73	141	49	3	0	0	0	0	0	0	0	0	331	21-30	214
10:00	15	20	57	139	55	12	0	0	0	0	0	0	0	0	298	21-30	196
11:00	14	19	35	120	98	20	1	0	0	0	0	0	0	0	307	26-35	218
12 PM	24	18	58	149	83	25	2	0	0	0	0	0	0	0	359	26-35	232
13:00	17	16	67	156	77	11	2	0	0	0	0	0	0	0	346	26-35	233
14:00	29	17	72	123	83	16	2	0	0	0	0	0	0	0	342	26-35	206
15:00	36	26	63	178	101	19	1	0	0	0	0	0	0	0	424	26-35	279
16:00	33	19	68	171	118	23	1	0	0	0	0	0	0	0	433	26-35	289
17:00	30	19	87	169	139	23	3	0	0	0	0	0	0	0	470	26-35	308
18:00	35	25	50	152	151	22	1	0	0	0	0	0	0	0	436	26-35	303
19:00	20	17	49	124	106	26	7	0	0	0	0	0	0	0	349	26-35	230
20:00	12	17	46	99	78	12	0	0	0	0	0	0	0	0	264	26-35	177
21:00	6	8	29	78	57	16	2	0	0	0	0	0	0	0	196	26-35	135
22:00	7	7	13	51	56	23	2	0	0	0	0	0	0	0	159	26-35	107
23:00	0	0	6	30	48	9	1	0	0	0	0	0	0	0	94	26-35	78
Total	405	326	951	2216	1578	333	45	1	0	0	0	0	0	0	5855		
Percent	6.9%	5.6%	16.2%	37.8%	27.0%	5.7%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	09:00	11:00	06:00	06:00	04:00								08:00	
Vol.	55	32	86	141	98	22	6	1								395	
PM Peak	15:00	15:00	17:00	15:00	18:00	19:00	19:00									17:00	
Vol.	36	26	87	178	151	26	7									470	
Total	792	589	1820	4220	3304	751	92	7	0	0	0	0	0	0	11575		
Percent	6.8%	5.1%	15.7%	36.5%	28.5%	6.5%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 21 MPH
50th Percentile : 29 MPH
85th Percentile : 34 MPH
95th Percentile : 37 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 7524
Percent in Pace : 65.0%
Number of Vehicles > 25 MPH : 8374
Percent of Vehicles > 25 MPH : 72.3%
Mean Speed(Average) : 28 MPH

Accurate Counts **978-664-2565**

Location : Broadway East of
Location : Everett Street
City/State: Arlington, MA
Counter : 16432
Eastbound

Site Code: 1472019
14720S19

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	0	2	11	7	2	0	0	0	0	0	0	0	0	22	24-33	18
01:00	0	0	0	1	6	2	0	0	0	0	0	0	0	0	9	28-37	9
02:00	0	0	0	4	3	0	0	0	0	0	0	0	0	0	7	24-33	7
03:00	0	1	0	0	4	3	0	0	0	0	0	0	0	0	8	29-38	7
04:00	0	2	0	3	6	3	0	0	0	0	0	0	0	0	14	28-37	11
05:00	0	0	7	13	22	3	0	0	0	0	0	0	0	0	45	26-35	35
06:00	4	1	19	56	38	14	5	0	0	0	0	0	0	0	137	26-35	94
07:00	22	19	96	155	79	16	2	0	0	0	0	0	0	0	389	21-30	251
08:00	117	59	109	142	52	3	1	0	0	0	0	0	0	0	483	21-30	251
09:00	42	25	81	142	50	7	0	0	0	0	0	0	0	0	347	21-30	223
10:00	29	14	68	101	47	9	0	0	0	0	0	0	0	0	268	21-30	169
11:00	14	8	51	126	59	16	2	0	0	0	0	0	0	0	276	25-34	185
12 PM	25	13	59	117	61	13	2	0	0	0	0	0	0	0	290	22-31	178
13:00	24	38	104	98	38	7	1	0	0	0	0	0	0	0	310	21-30	202
14:00	42	43	73	109	41	10	0	0	0	0	0	0	0	0	318	21-30	182
15:00	35	24	69	114	71	9	1	0	0	0	0	0	0	0	323	22-31	185
16:00	57	26	68	150	65	17	1	0	0	0	0	0	0	0	384	21-30	218
17:00	44	23	85	174	93	17	1	0	0	0	0	0	0	0	437	26-35	267
18:00	53	24	99	181	87	6	1	0	0	0	0	0	0	0	451	21-30	280
19:00	21	10	78	139	62	13	0	1	0	0	0	0	0	0	324	21-30	217
20:00	15	8	43	109	61	5	0	0	0	0	0	0	0	0	241	26-35	170
21:00	4	7	53	83	47	8	2	0	0	0	0	0	0	0	204	21-30	136
22:00	6	6	11	41	31	12	0	0	0	0	0	0	0	0	107	26-35	72
23:00	1	1	0	19	17	7	0	0	0	0	1	0	0	0	46	26-35	36
Total	555	352	1175	2088	1047	202	19	1	0	0	1	0	0	0	5440		
Percent	10.2%	6.5%	21.6%	38.4%	19.2%	3.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	07:00	07:00	07:00	06:00									08:00	
Vol.	117	59	109	155	79	16	5									483	
PM Peak	16:00	14:00	13:00	18:00	17:00	16:00	12:00	19:00			23:00					18:00	
Vol.	57	43	104	181	93	17	2	1			1					451	
Total	1057	662	2183	4081	2369	483	48	3	0	0	1	0	0	0	10887		
Percent	9.7%	6.1%	20.1%	37.5%	21.8%	4.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 20 MPH
50th Percentile : 27 MPH
85th Percentile : 33 MPH
95th Percentile : 35 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 6450
Percent in Pace : 59.2%
Number of Vehicles > 25 MPH : 6985
Percent of Vehicles > 25 MPH : 64.2%
Mean Speed(Average) : 26 MPH

Accurate Counts 978-664-2565

Location : Broadway East of
Location : Everett Street
City/State: Arlington, MA
Counter : 16432
Westbound, Eastbound

Site Code: 1472019
14720S19

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	3	5	24	21	11	1	0	0	0	0	0	0	0	65	26-35	45
01:00	1	0	2	8	20	6	0	0	0	0	0	0	0	0	37	27-36	29
02:00	0	0	1	6	5	4	2	0	0	0	0	0	0	0	18	25-34	11
03:00	1	1	0	2	12	8	4	0	0	0	0	0	0	0	28	29-38	20
04:00	1	2	1	8	10	5	2	1	0	0	0	0	0	0	30	26-35	18
05:00	0	3	15	24	32	8	2	0	0	0	0	0	0	0	84	26-35	56
06:00	12	11	43	107	90	36	11	0	0	0	0	0	0	0	310	26-35	197
07:00	46	41	149	268	171	32	4	0	0	0	0	0	0	0	711	26-35	439
08:00	172	91	195	274	135	9	2	0	0	0	0	0	0	0	878	21-30	469
09:00	79	53	154	283	99	10	0	0	0	0	0	0	0	0	678	21-30	437
10:00	44	34	125	240	102	21	0	0	0	0	0	0	0	0	566	21-30	365
11:00	28	27	86	246	157	36	3	0	0	0	0	0	0	0	583	26-35	403
12 PM	49	31	117	266	144	38	4	0	0	0	0	0	0	0	649	26-35	410
13:00	41	54	171	254	115	18	3	0	0	0	0	0	0	0	656	21-30	425
14:00	71	60	145	232	124	26	2	0	0	0	0	0	0	0	660	21-30	377
15:00	71	50	132	292	172	28	2	0	0	0	0	0	0	0	747	26-35	464
16:00	90	45	136	321	183	40	2	0	0	0	0	0	0	0	817	26-35	504
17:00	74	42	172	343	232	40	4	0	0	0	0	0	0	0	907	26-35	575
18:00	88	49	149	333	238	28	2	0	0	0	0	0	0	0	887	26-35	571
19:00	41	27	127	263	168	39	7	1	0	0	0	0	0	0	673	26-35	431
20:00	27	25	89	208	139	17	0	0	0	0	0	0	0	0	505	26-35	347
21:00	10	15	82	161	104	24	4	0	0	0	0	0	0	0	400	26-35	265
22:00	13	13	24	92	87	35	2	0	0	0	0	0	0	0	266	26-35	179
23:00	1	1	6	49	65	16	1	0	0	0	1	0	0	0	140	26-35	114
Total	960	678	2126	4304	2625	535	64	2	0	0	1	0	0	0	11295		
Percent	8.5%	6.0%	18.8%	38.1%	23.2%	4.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	09:00	07:00	06:00	06:00	04:00								08:00	
Vol.	172	91	195	283	171	36	11	1								878	
PM Peak	16:00	14:00	17:00	17:00	18:00	16:00	19:00	19:00			23:00					17:00	
Vol.	90	60	172	343	238	40	7	1			1					907	
Total	1849	1251	4003	8301	5673	1234	140	10	0	0	1	0	0	0	22462		
Percent	8.2%	5.6%	17.8%	37.0%	25.3%	5.5%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 21 MPH
50th Percentile : 28 MPH
85th Percentile : 34 MPH
95th Percentile : 37 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 13974
Percent in Pace : 62.2%
Number of Vehicles > 25 MPH : 15359
Percent of Vehicles > 25 MPH : 68.4%
Mean Speed(Average) : 27 MPH

Accurate Counts

978-664-2565

Page 1

Location : Tufts Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 2751






















Site Code: 14720020
14720V20

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	1	9	1	19	*	*	1	14
12:15	0	12	1	11	*	*	0	12
12:30	2	10	1	16	*	*	2	13
12:45	1	15	0	10	*	*	0	12
01:00	0	9	0	11	*	*	0	10
01:15	0	6	0	10	*	*	0	8
01:30	1	7	0	8	*	*	0	8
01:45	1	6	0	10	*	*	0	8
02:00	0	6	0	8	*	*	0	7
02:15	0	7	0	15	*	*	0	11
02:30	0	10	0	8	*	*	0	9
02:45	0	23	0	19	*	*	0	21
03:00	0	21	0	15	*	*	0	18
03:15	0	24	1	31	*	*	0	28
03:30	0	18	0	17	*	*	0	18
03:45	0	22	0	20	*	*	0	21
04:00	0	22	0	18	*	*	0	20
04:15	0	15	1	4	*	*	0	10
04:30	0	20	0	13	*	*	0	16
04:45	0	12	0	18	*	*	0	15
05:00	1	19	1	20	*	*	1	20
05:15	1	25	1	16	*	*	1	20
05:30	2	17	4	23	*	*	3	20
05:45	2	20	1	17	*	*	2	18
06:00	1	10	5	17	*	*	3	14
06:15	2	13	4	13	*	*	3	13
06:30	1	5	3	13	*	*	2	9
06:45	0	13	2	11	*	*	1	12
07:00	4	7	4	18	*	*	4	12
07:15	4	10	4	6	*	*	4	8
07:30	8	12	8	8	*	*	8	10
07:45	8	5	7	10	*	*	8	8
08:00	11	6	16	6	*	*	14	6
08:15	33	11	31	9	*	*	32	10
08:30	28	6	28	8	*	*	28	7
08:45	28	4	25	7	*	*	26	6
09:00	17	5	18	12	*	*	18	8
09:15	21	9	16	2	*	*	18	6
09:30	11	0	12	4	*	*	12	2
09:45	12	3	8	6	*	*	10	4
10:00	13	6	11	4	*	*	12	5
10:15	11	5	14	1	*	*	12	3
10:30	4	3	13	3	*	*	8	3
10:45	13	0	11	2	*	*	12	1
11:00	11	0	6	1	*	*	8	0
11:15	7	0	18	0	*	*	12	0
11:30	12	4	9	0	*	*	10	2
11:45	0	0	13	3	*	*	6	2
Total	272	492	298	521	0	0	281	508
Combined Total	764		819		0		789	
Peak	08:15	02:45	08:15	03:15			08:15	03:15
Vol.	106	86	102	86			104	87
P.H.F.	0.803	0.896	0.823	0.694			0.813	0.777
ADT		ADT 792	AADT 792					

Accurate Counts
978-664-2565

Location : Tufts Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 2751

Site Code: 14720020
14720V20

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	4	3	*	4	*	*	4 
01:00	*	*	2	0	*	1	*	*	1 
02:00	*	*	0	0	*	0	*	*	0
03:00	*	*	0	1	*	0	*	*	0
04:00	*	*	0	1	*	0	*	*	0
05:00	*	*	6	7	*	6	*	*	6 
06:00	*	*	4	14	*	9	*	*	9 
07:00	*	*	24	23	*	24	*	*	24 
08:00	*	*	100	100	*	100	*	*	100 
09:00	*	*	61	54	*	58	*	*	58 
10:00	*	*	41	49	*	45	*	*	45 
11:00	*	*	30	46	*	38	*	*	38 
12:00 PM	*	*	46	56	*	51	*	*	51 
01:00	*	*	28	39	*	34	*	*	34 
02:00	*	*	46	50	*	48	*	*	48 
03:00	*	*	85	83	*	84	*	*	84 
04:00	*	*	69	53	*	61	*	*	61 
05:00	*	*	81	76	*	78	*	*	78 
06:00	*	*	41	54	*	48	*	*	48 
07:00	*	*	34	42	*	38	*	*	38 
08:00	*	*	27	30	*	28	*	*	28 
09:00	*	*	17	24	*	20	*	*	20 
10:00	*	*	14	10	*	12	*	*	12 
11:00	*	*	4	4	*	4	*	*	4 
Day Total	0	0	764	819	0	791	0	0	791
% Avg. WkDay	0.0%	0.0%	96.6%	103.5%	0.0%				
% Avg. Week	0.0%	0.0%	96.6%	103.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			100	100		100			100
PM Peak			15:00	15:00		15:00			15:00
Vol.			85	83		84			84
Grand Total	0	0	764	819	0	791	0	0	791
ADT	ADT 792		AADT 792						

Accurate Counts
978-664-2565

Location : Tufts Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 2751
Northbound

Site Code: 14720020
14720S20

[illegible]

Accurate Counts 978-664-2565

Location : Tufts Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 2751
Northbound

Site Code: 14720020
14720S20

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	0	1	2	0	0	0	0	0	0	0	0	0	0	3	18-27	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	22-31	1
05:00	4	0	0	3	0	0	0	0	0	0	0	0	0	0	7	*	4
06:00	3	3	5	1	1	1	0	0	0	0	0	0	0	0	14	13-22	8
07:00	1	3	5	11	2	1	0	0	0	0	0	0	0	0	23	21-30	16
08:00	41	29	25	5	0	0	0	0	0	0	0	0	0	0	100	16-25	54
09:00	10	17	18	9	0	0	0	0	0	0	0	0	0	0	54	16-25	35
10:00	10	13	17	4	5	0	0	0	0	0	0	0	0	0	49	16-25	30
11:00	12	12	14	6	2	0	0	0	0	0	0	0	0	0	46	16-25	26
12 PM	11	16	18	9	1	1	0	0	0	0	0	0	0	0	56	16-25	34
13:00	5	10	4	16	3	1	0	0	0	0	0	0	0	0	39	22-31	21
14:00	8	17	14	11	0	0	0	0	0	0	0	0	0	0	50	16-25	31
15:00	25	30	19	7	2	0	0	0	0	0	0	0	0	0	83	16-25	49
16:00	11	10	15	15	2	0	0	0	0	0	0	0	0	0	53	21-30	30
17:00	29	19	19	6	3	0	0	0	0	0	0	0	0	0	76	16-25	38
18:00	13	12	16	9	4	0	0	0	0	0	0	0	0	0	54	16-25	28
19:00	9	6	20	5	2	0	0	0	0	0	0	0	0	0	42	16-25	26
20:00	10	4	7	7	2	0	0	0	0	0	0	0	0	0	30	18-27	14
21:00	7	9	3	3	1	1	0	0	0	0	0	0	0	0	24	10-19	14
22:00	2	0	3	4	1	0	0	0	0	0	0	0	0	0	10	22-31	8
23:00	1	0	0	3	0	0	0	0	0	0	0	0	0	0	4	19-28	3
Total	213	210	223	136	32	5	0	0	0	0	0	0	0	0	819		
Percent	26.0%	25.6%	27.2%	16.6%	3.9%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	07:00	10:00	06:00									08:00		
Vol.	41	29	25	11	5	1									100		
PM Peak	17:00	15:00	19:00	13:00	18:00	12:00									15:00		
Vol.	29	30	20	16	4	1									83		
Total	405	380	444	273	74	7	0	0	0	0	0	0	0	0	1583		
Percent	25.6%	24.0%	28.0%	17.2%	4.7%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 9 MPH
50th Percentile : 21 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 824
Percent in Pace : 52.1%
Number of Vehicles > 20 MPH : 798
Percent of Vehicles > 20 MPH : 50.4%
Mean Speed(Average) : 19 MPH

Accurate Counts

978-664-2565

Location : Harlow Street South of
 Location : Broadway
 City/State: Arlington, MA
 Counter : 2377














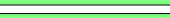
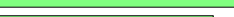







Site Code: 14720021
 14720V21

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	2	3	1	14	*	*	2	8
12:15	0	3	1	5	*	*	0	4
12:30	1	5	2	8	*	*	2	6
12:45	1	7	0	8	*	*	0	8
01:00	2	4	0	8	*	*	1	6
01:15	0	8	0	5	*	*	0	6
01:30	1	5	0	6	*	*	0	6
01:45	0	5	0	10	*	*	0	8
02:00	0	10	0	8	*	*	0	9
02:15	1	9	0	8	*	*	0	8
02:30	0	5	0	8	*	*	0	6
02:45	0	11	0	9	*	*	0	10
03:00	0	9	0	5	*	*	0	7
03:15	0	7	0	6	*	*	0	6
03:30	0	10	0	6	*	*	0	8
03:45	0	10	0	10	*	*	0	10
04:00	0	8	0	12	*	*	0	10
04:15	0	11	0	6	*	*	0	8
04:30	0	9	1	12	*	*	0	10
04:45	0	15	1	7	*	*	0	11
05:00	2	13	2	9	*	*	2	11
05:15	0	9	0	4	*	*	0	6
05:30	0	14	1	8	*	*	0	11
05:45	0	10	0	6	*	*	0	8
06:00	3	11	1	12	*	*	2	12
06:15	1	6	0	12	*	*	0	9
06:30	5	6	7	10	*	*	6	8
06:45	2	6	2	7	*	*	2	6
07:00	5	10	3	9	*	*	4	10
07:15	5	10	3	10	*	*	4	10
07:30	5	10	8	5	*	*	6	8
07:45	0	6	8	10	*	*	4	8
08:00	12	8	11	8	*	*	12	8
08:15	9	3	5	2	*	*	7	2
08:30	19	5	13	6	*	*	16	6
08:45	8	3	6	6	*	*	7	4
09:00	10	5	5	5	*	*	8	5
09:15	7	2	5	5	*	*	6	4
09:30	3	4	6	1	*	*	4	2
09:45	7	2	2	3	*	*	4	2
10:00	2	7	6	2	*	*	4	4
10:15	5	3	7	5	*	*	6	4
10:30	8	0	4	3	*	*	6	2
10:45	9	5	3	2	*	*	6	4
11:00	12	3	6	1	*	*	9	2
11:15	7	5	6	1	*	*	6	3
11:30	10	0	3	3	*	*	6	2
11:45	4	1	6	0	*	*	5	0
Total	168	321	135	316	0	0	147	316
Combined Total	489		451		0		463	
Peak	08:00	04:45	07:45	06:00			08:00	04:15
Vol.	48	51	37	41			42	40
P.H.F.	0.632	0.850	0.712	0.854			0.656	0.909
ADT		ADT 470	AADT 470					

Accurate Counts
978-664-2565

Location : Harlow Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 2377

Site Code: 14720021
14720V21

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	4	4	*	4	*	*	4 
01:00	*	*	3	0	*	2	*	*	2 
02:00	*	*	1	0	*	0	*	*	0
03:00	*	*	0	0	*	0	*	*	0
04:00	*	*	0	2	*	1	*	*	1 
05:00	*	*	2	3	*	2	*	*	2 
06:00	*	*	11	10	*	10	*	*	10 
07:00	*	*	15	22	*	18	*	*	18 
08:00	*	*	48	35	*	42	*	*	42 
09:00	*	*	27	18	*	22	*	*	22 
10:00	*	*	24	20	*	22	*	*	22 
11:00	*	*	33	21	*	27	*	*	27 
12:00 PM	*	*	18	35	*	26	*	*	26 
01:00	*	*	22	29	*	26	*	*	26 
02:00	*	*	35	33	*	34	*	*	34 
03:00	*	*	36	27	*	32	*	*	32 
04:00	*	*	43	37	*	40	*	*	40 
05:00	*	*	46	27	*	36	*	*	36 
06:00	*	*	29	41	*	35	*	*	35 
07:00	*	*	36	34	*	35	*	*	35 
08:00	*	*	19	22	*	20	*	*	20 
09:00	*	*	13	14	*	14	*	*	14 
10:00	*	*	15	12	*	14	*	*	14 
11:00	*	*	9	5	*	7	*	*	7 
Day Total	0	0	489	451	0	469	0	0	469
% Avg. WkDay	0.0%	0.0%	104.3%	96.2%	0.0%				
% Avg. Week	0.0%	0.0%	104.3%	96.2%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.			08:00 48	08:00 35		08:00 42			08:00 42
PM Peak Vol.			17:00 46	18:00 41		16:00 40			16:00 40
Grand Total	0	0	489	451	0	469	0	0	469
ADT	ADT 470		AADT 470						

Site Code: 14720021
14720S21

[illegible]

Accurate Counts 978-664-2565

Location : Harlow Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 2377
Northbound

Site Code: 14720021
14720S21

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15-24	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	12-21	1
05:00	1	1	0	1	0	0	0	0	0	0	0	0	0	0	3	7-16	2
06:00	3	2	3	1	1	0	0	0	0	0	0	0	0	0	10	14-23	5
07:00	4	1	11	5	1	0	0	0	0	0	0	0	0	0	22	20-29	16
08:00	5	6	12	10	2	0	0	0	0	0	0	0	0	0	35	20-29	22
09:00	0	3	13	1	1	0	0	0	0	0	0	0	0	0	18	16-25	16
10:00	5	4	4	7	0	0	0	0	0	0	0	0	0	0	20	18-27	11
11:00	10	3	5	1	1	1	0	0	0	0	0	0	0	0	21	1-10	10
12 PM	6	11	13	5	0	0	0	0	0	0	0	0	0	0	35	16-25	24
13:00	4	7	11	7	0	0	0	0	0	0	0	0	0	0	29	18-27	20
14:00	8	8	9	6	1	1	0	0	0	0	0	0	0	0	33	17-26	18
15:00	2	2	8	13	2	0	0	0	0	0	0	0	0	0	27	21-30	21
16:00	3	4	16	12	2	0	0	0	0	0	0	0	0	0	37	21-30	28
17:00	12	3	6	6	0	0	0	0	0	0	0	0	0	0	27	18-27	12
18:00	8	8	17	6	2	0	0	0	0	0	0	0	0	0	41	17-26	26
19:00	5	7	15	6	1	0	0	0	0	0	0	0	0	0	34	17-26	23
20:00	3	6	10	3	0	0	0	0	0	0	0	0	0	0	22	16-25	16
21:00	1	4	5	3	1	0	0	0	0	0	0	0	0	0	14	17-26	10
22:00	5	4	2	1	0	0	0	0	0	0	0	0	0	0	12	13-22	6
23:00	2	0	3	0	0	0	0	0	0	0	0	0	0	0	5	14-23	3
Total	87	84	168	94	16	2	0	0	0	0	0	0	0	0	451		
Percent	19.3%	18.6%	37.3%	20.8%	3.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	08:00	09:00	08:00	08:00	11:00									08:00		
Vol.	10	6	13	10	2	1									35		
PM Peak	17:00	12:00	18:00	15:00	15:00	14:00									18:00		
Vol.	12	11	17	13	2	1									41		
Total	176	168	333	220	39	4	0	0	0	0	0	0	0	0	940		
Percent	18.7%	17.9%	35.4%	23.4%	4.1%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 12 MPH
50th Percentile : 22 MPH
85th Percentile : 28 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 553
Percent in Pace : 58.8%
Number of Vehicles > 20 MPH : 596
Percent of Vehicles > 20 MPH : 63.4%
Mean Speed(Average) : 21 MPH

Accurate Counts
978-664-2565

Location : Massachusetts Avenue WB
Location : East of Thorndike Street
City/State: Arlington, MA
Counter : 16429

Site Code: 14720022
14720V22















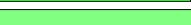




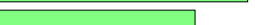




Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	36	133	41	139	*	*	38	136
12:15	42	119	19	157	*	*	30	138
12:30	23	141	24	127	*	*	24	134
12:45	24	121	27	120	*	*	26	120
01:00	22	129	22	149	*	*	22	139
01:15	16	127	17	106	*	*	16	116
01:30	17	107	13	113	*	*	15	110
01:45	7	142	12	138	*	*	10	140
02:00	14	117	10	136	*	*	12	126
02:15	5	136	16	142	*	*	10	139
02:30	4	134	8	122	*	*	6	128
02:45	12	133	8	103	*	*	10	118
03:00	7	139	9	158	*	*	8	148
03:15	12	148	6	142	*	*	9	145
03:30	4	136	7	182	*	*	6	159
03:45	6	143	0	162	*	*	3	152
04:00	5	176	1	161	*	*	3	168
04:15	3	131	5	177	*	*	4	154
04:30	1	170	5	176	*	*	3	173
04:45	8	171	3	174	*	*	6	172
05:00	5	184	3	181	*	*	4	182
05:15	14	200	6	160	*	*	10	180
05:30	15	151	16	179	*	*	16	165
05:45	23	151	16	154	*	*	20	152
06:00	26	175	19	130	*	*	22	152
06:15	38	159	30	168	*	*	34	164
06:30	58	159	59	181	*	*	58	170
06:45	69	184	76	185	*	*	72	184
07:00	87	159	82	188	*	*	84	174
07:15	93	176	101	156	*	*	97	166
07:30	147	136	133	183	*	*	140	160
07:45	156	149	147	180	*	*	152	164
08:00	141	145	166	152	*	*	154	148
08:15	130	124	190	153	*	*	160	138
08:30	158	120	166	122	*	*	162	121
08:45	150	113	126	120	*	*	138	116
09:00	132	104	138	124	*	*	135	114
09:15	133	134	143	126	*	*	138	130
09:30	164	102	107	102	*	*	136	102
09:45	115	116	92	135	*	*	104	126
10:00	140	80	88	93	*	*	114	86
10:15	98	122	135	90	*	*	116	106
10:30	108	80	131	86	*	*	120	83
10:45	115	91	104	80	*	*	110	86
11:00	125	61	104	80	*	*	114	70
11:15	125	60	138	75	*	*	132	68
11:30	120	59	112	56	*	*	116	58
11:45	132	53	103	47	*	*	118	50
Total	3085	6300	2984	6570	0	0	3037	6430
Combined Total	9385		9554		0		9467	
Peak	07:45	04:30	07:45	06:15			07:45	04:30
Vol.	585	725	669	722			628	707
P.H.F.	0.926	0.906	0.880	0.960			0.969	0.971
ADT		ADT 9,470	AADT 9,470					

Accurate Counts

978-664-2565

Location : Massachusetts Avenue WB
 Location : East of Thorndike Street
 City/State: Arlington, MA
 Counter : 16429

Site Code: 14720022
 14720V22

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	125	111	*	118	*	*	118 
01:00	*	*	62	64	*	63	*	*	63 
02:00	*	*	35	42	*	38	*	*	38 
03:00	*	*	29	22	*	26	*	*	26 
04:00	*	*	17	14	*	16	*	*	16 
05:00	*	*	57	41	*	49	*	*	49 
06:00	*	*	191	184	*	188	*	*	188 
07:00	*	*	483	463	*	473	*	*	473 
08:00	*	*	579	648	*	614	*	*	614 
09:00	*	*	544	480	*	512	*	*	512 
10:00	*	*	461	458	*	460	*	*	460 
11:00	*	*	502	457	*	480	*	*	480 
12:00 PM	*	*	514	543	*	528	*	*	528 
01:00	*	*	505	506	*	506	*	*	506 
02:00	*	*	520	503	*	512	*	*	512 
03:00	*	*	566	644	*	605	*	*	605 
04:00	*	*	648	688	*	668	*	*	668 
05:00	*	*	686	674	*	680	*	*	680 
06:00	*	*	677	664	*	670	*	*	670 
07:00	*	*	620	707	*	664	*	*	664 
08:00	*	*	502	547	*	524	*	*	524 
09:00	*	*	456	487	*	472	*	*	472 
10:00	*	*	373	349	*	361	*	*	361 
11:00	*	*	233	258	*	246	*	*	246 
Day Total	0	0	9385	9554	0	9473	0	0	9473
% Avg. WkDay	0.0%	0.0%	99.1%	100.9%	0.0%				
% Avg. Week	0.0%	0.0%	99.1%	100.9%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			579	648		614			614
PM Peak			17:00	19:00		17:00			17:00
Vol.			686	707		680			680
Grand Total	0	0	9385	9554	0	9473	0	0	9473
ADT	ADT 9,470		AADT 9,470						

Accurate Counts

978-664-2565

Location : Massachusetts Avenue EB
 Location : East of Thorndike Street
 City/State: Arlington, MA
 Counter : 16193













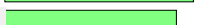











Site Code: 14720022
 1472EV22

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	23	127	21	122	*	*	22	124
12:15	14	122	11	109	*	*	12	116
12:30	18	116	9	130	*	*	14	123
12:45	15	135	16	131	*	*	16	133
01:00	12	119	9	118	*	*	10	118
01:15	6	103	8	103	*	*	7	103
01:30	5	110	7	121	*	*	6	116
01:45	6	104	7	124	*	*	6	114
02:00	5	126	6	132	*	*	6	129
02:15	4	108	5	116	*	*	4	112
02:30	2	107	3	124	*	*	2	116
02:45	8	116	5	137	*	*	6	126
03:00	6	136	4	131	*	*	5	134
03:15	5	132	9	157	*	*	7	144
03:30	4	144	4	141	*	*	4	142
03:45	6	114	3	149	*	*	4	132
04:00	8	135	3	145	*	*	6	140
04:15	10	128	12	146	*	*	11	137
04:30	10	144	13	163	*	*	12	154
04:45	19	154	17	118	*	*	18	136
05:00	20	148	21	175	*	*	20	162
05:15	31	136	24	176	*	*	28	156
05:30	31	148	38	161	*	*	34	154
05:45	47	154	48	144	*	*	48	149
06:00	58	167	71	147	*	*	64	157
06:15	71	162	70	169	*	*	70	166
06:30	126	195	134	179	*	*	130	187
06:45	137	155	136	167	*	*	136	161
07:00	142	129	143	143	*	*	142	136
07:15	198	127	175	145	*	*	186	136
07:30	171	110	189	128	*	*	180	119
07:45	118	108	134	127	*	*	126	118
08:00	102	126	191	113	*	*	146	120
08:15	179	121	140	106	*	*	160	114
08:30	157	110	99	105	*	*	128	108
08:45	161	97	170	109	*	*	166	103
09:00	157	82	185	106	*	*	171	94
09:15	156	97	166	100	*	*	161	98
09:30	141	100	136	103	*	*	138	102
09:45	167	98	142	82	*	*	154	90
10:00	136	90	144	89	*	*	140	90
10:15	131	73	122	67	*	*	126	70
10:30	115	53	122	71	*	*	118	62
10:45	127	53	122	56	*	*	124	54
11:00	116	43	132	50	*	*	124	46
11:15	131	38	100	23	*	*	116	30
11:30	117	31	126	30	*	*	122	30
11:45	125	26	139	19	*	*	132	22
Total	3554	5457	3591	5707	0	0	3568	5583
Combined Total	9011		9298		0		9151	
Peak	08:15	06:00	07:15	06:00			06:45	06:00
Vol.	654	679	689	662			644	671
P.H.F.	0.826	0.871	0.902	0.925			0.866	0.897
ADT		ADT 9,154	AADT 9,154					

Accurate Counts
978-664-2565

Location : Massachusetts Avenue EB
Location : East of Thorndike Street
City/State: Arlington, MA
Counter : 16193

Site Code: 14720022
1472EV22

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	70	57	*	64	*	*	64 
01:00	*	*	29	31	*	30	*	*	30 
02:00	*	*	19	19	*	19	*	*	19 
03:00	*	*	21	20	*	20	*	*	20 
04:00	*	*	47	45	*	46	*	*	46 
05:00	*	*	129	131	*	130	*	*	130 
06:00	*	*	392	411	*	402	*	*	402 
07:00	*	*	629	641	*	635	*	*	635 
08:00	*	*	599	600	*	600	*	*	600 
09:00	*	*	621	629	*	625	*	*	625 
10:00	*	*	509	510	*	510	*	*	510 
11:00	*	*	489	497	*	493	*	*	493 
12:00 PM	*	*	500	492	*	496	*	*	496 
01:00	*	*	436	466	*	451	*	*	451 
02:00	*	*	457	509	*	483	*	*	483 
03:00	*	*	526	578	*	552	*	*	552 
04:00	*	*	561	572	*	566	*	*	566 
05:00	*	*	586	656	*	621	*	*	621 
06:00	*	*	679	662	*	670	*	*	670 
07:00	*	*	474	543	*	508	*	*	508 
08:00	*	*	454	433	*	444	*	*	444 
09:00	*	*	377	391	*	384	*	*	384 
10:00	*	*	269	283	*	276	*	*	276 
11:00	*	*	138	122	*	130	*	*	130 
Day Total	0	0	9011	9298	0	9155	0	0	9155
% Avg. WkDay	0.0%	0.0%	98.4%	101.6%	0.0%				
% Avg. Week	0.0%	0.0%	98.4%	101.6%	0.0%	100.0%	0.0%	0.0%	
AM Peak			07:00	07:00		07:00			07:00
Vol.			629	641		635			635
PM Peak			18:00	18:00		18:00			18:00
Vol.			679	662		670			670
Grand Total	0	0	9011	9298	0	9155	0	0	9155
ADT	ADT 9,154		AADT 9,154						

Accurate Counts **978-664-2565**

Location : Massachusetts Avenue EB
Location : East of Thorndike Street
City/State: Arlington, MA
Counter : 16193
Eastbound

Site Code: 14720022
1472ES22

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/26/10	15	2	0	5	12	19	15	2	0	0	0	0	0	0	70	34-43	34
01:00	6	0	1	2	6	6	4	3	1	0	0	0	0	0	29	29-38	12
02:00	5	0	1	1	4	1	5	1	1	0	0	0	0	0	19	25-34	6
03:00	5	0	0	0	7	4	3	1	0	1	0	0	0	0	21	30-39	11
04:00	14	0	1	5	11	5	10	0	1	0	0	0	0	0	47	26-35	16
05:00	25	3	2	8	19	31	23	12	4	1	0	1	0	0	129	34-43	54
06:00	105	4	10	16	88	113	45	9	2	0	0	0	0	0	392	31-40	201
07:00	226	41	63	122	109	45	16	4	3	0	0	0	0	0	629	26-35	231
08:00	306	66	104	66	44	12	1	0	0	0	0	0	0	0	599	1-10	206
09:00	131	33	95	132	131	76	20	2	1	0	0	0	0	0	621	26-35	263
10:00	94	12	56	96	129	87	30	5	0	0	0	0	0	0	509	26-35	225
11:00	81	10	29	89	159	95	21	5	0	0	0	0	0	0	489	31-40	254
12 PM	104	10	31	101	130	92	29	3	0	0	0	0	0	0	500	26-35	231
13:00	87	12	29	106	99	73	25	4	1	0	0	0	0	0	436	26-35	205
14:00	53	14	32	108	133	89	23	4	1	0	0	0	0	0	457	26-35	241
15:00	78	7	44	117	143	89	39	8	1	0	0	0	0	0	526	26-35	260
16:00	103	12	50	120	161	89	23	3	0	0	0	0	0	0	561	26-35	281
17:00	141	8	45	141	155	74	20	1	0	1	0	0	0	0	586	26-35	296
18:00	154	24	74	190	153	70	11	3	0	0	0	0	0	0	679	26-35	343
19:00	104	7	33	114	131	66	19	0	0	0	0	0	0	0	474	26-35	245
20:00	123	5	29	99	112	71	14	1	0	0	0	0	0	0	454	26-35	211
21:00	94	10	15	75	111	49	19	3	1	0	0	0	0	0	377	26-35	186
22:00	76	6	17	42	75	40	11	2	0	0	0	0	0	0	269	26-35	117
23:00	52	2	2	7	25	33	13	4	0	0	0	0	0	0	138	31-40	58
Total	2182	288	763	1762	2147	1329	439	80	17	3	0	1	0	0	9011		
Percent	24.2%	3.2%	8.5%	19.6%	23.8%	14.7%	4.9%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	09:00	11:00	06:00	06:00	05:00	05:00	03:00		05:00			07:00		
Vol.	306	66	104	132	159	113	45	12	4	1		1			629		
PM Peak	18:00	18:00	18:00	18:00	16:00	12:00	15:00	15:00	13:00	17:00					18:00		
Vol.	154	24	74	190	161	92	39	8	1	1					679		

Accurate Counts **978-664-2565**

Location : Massachusetts Avenue EB
Location : East of Thorndike Street
City/State: Arlington, MA
Counter : 16193
Eastbound

Site Code: 14720022
1472ES22

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	10	0	3	6	11	15	10	0	0	2	0	0	0	0	57	31-40	26
01:00	10	0	1	6	2	6	4	2	0	0	0	0	0	0	31	34-43	11
02:00	5	0	0	3	5	2	4	0	0	0	0	0	0	0	19	26-35	8
03:00	5	0	0	1	4	4	3	1	2	0	0	0	0	0	20	30-39	9
04:00	18	0	0	4	7	5	6	4	1	0	0	0	0	0	45	1-10	13
05:00	40	3	2	6	22	30	16	9	3	0	0	0	0	0	131	31-40	52
06:00	123	4	9	25	69	117	45	19	0	0	0	0	0	0	411	31-40	186
07:00	225	31	86	122	104	51	17	5	0	0	0	0	0	0	641	26-35	226
08:00	274	61	98	99	54	13	1	0	0	0	0	0	0	0	600	21-30	197
09:00	185	13	38	111	162	89	24	7	0	0	0	0	0	0	629	26-35	273
10:00	137	18	37	107	102	85	18	5	1	0	0	0	0	0	510	26-35	209
11:00	125	20	22	92	123	95	18	2	0	0	0	0	0	0	497	29-38	218
12 PM	108	13	25	80	147	91	23	4	1	0	0	0	0	0	492	31-40	238
13:00	65	8	45	133	130	66	16	3	0	0	0	0	0	0	466	26-35	263
14:00	81	21	41	144	135	70	16	1	0	0	0	0	0	0	509	26-35	279
15:00	112	16	66	134	139	79	30	1	1	0	0	0	0	0	578	26-35	273
16:00	135	10	51	94	141	115	20	5	1	0	0	0	0	0	572	31-40	256
17:00	160	16	69	143	164	80	19	5	0	0	0	0	0	0	656	26-35	307
18:00	171	24	105	165	142	48	7	0	0	0	0	0	0	0	662	26-35	307
19:00	166	13	39	108	138	62	16	1	0	0	0	0	0	0	543	26-35	246
20:00	145	9	29	79	115	48	7	1	0	0	0	0	0	0	433	26-35	194
21:00	139	6	24	61	92	52	13	2	1	1	0	0	0	0	391	26-35	153
22:00	102	2	7	36	63	49	20	4	0	0	0	0	0	0	283	31-40	112
23:00	50	0	4	12	19	25	9	3	0	0	0	0	0	0	122	31-40	44
Total	2591	288	801	1771	2090	1297	362	84	11	3	0	0	0	0	9298		
Percent	27.9%	3.1%	8.6%	19.0%	22.5%	13.9%	3.9%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	07:00	09:00	06:00	06:00	06:00	05:00	00:00						07:00	
Vol.	274	61	98	122	162	117	45	19	3	2						641	
PM Peak	18:00	18:00	18:00	18:00	17:00	16:00	15:00	16:00	12:00	21:00						18:00	
Vol.	171	24	105	165	164	115	30	5	1	1						662	
Total	4773	576	1564	3533	4237	2626	801	164	28	6	0	1	0	0	18309		
Percent	26.1%	3.1%	8.5%	19.3%	23.1%	14.3%	4.4%	0.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 9 MPH
50th Percentile : 29 MPH
85th Percentile : 37 MPH
95th Percentile : 41 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 7770
Percent in Pace : 42.4%
Number of Vehicles > 25 MPH : 11396
Percent of Vehicles > 25 MPH : 62.2%
Mean Speed(Average) : 26 MPH

Accurate Counts **978-664-2565**

Location : Massachusetts Avenue WB
Location : East of Thorndike Street
City/State: Arlington, MA
Counter : 16429
Westbound

Site Code: 14720022
14720S22

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/26/10	32	7	4	14	37	26	5	0	0	0	0	0	0	0	125	31-40	63
01:00	16	0	2	11	16	13	3	1	0	0	0	0	0	0	62	29-38	30
02:00	6	0	1	11	11	6	0	0	0	0	0	0	0	0	35	26-35	22
03:00	10	0	0	4	9	5	0	1	0	0	0	0	0	0	29	27-36	14
04:00	3	0	0	1	6	5	1	1	0	0	0	0	0	0	17	30-39	11
05:00	15	2	1	8	13	13	3	2	0	0	0	0	0	0	57	29-38	26
06:00	43	0	11	18	42	63	12	1	1	0	0	0	0	0	191	31-40	105
07:00	142	48	51	69	108	57	8	0	0	0	0	0	0	0	483	26-35	177
08:00	191	50	45	98	142	50	3	0	0	0	0	0	0	0	579	26-35	240
09:00	140	54	71	105	127	39	7	1	0	0	0	0	0	0	544	26-35	232
10:00	103	32	52	116	124	32	2	0	0	0	0	0	0	0	461	26-35	240
11:00	109	32	56	120	133	47	4	1	0	0	0	0	0	0	502	26-35	253
12 PM	103	43	52	122	150	41	3	0	0	0	0	0	0	0	514	26-35	272
13:00	120	44	59	106	135	36	5	0	0	0	0	0	0	0	505	26-35	241
14:00	93	55	73	116	127	49	7	0	0	0	0	0	0	0	520	26-35	243
15:00	134	52	75	123	125	51	6	0	0	0	0	0	0	0	566	26-35	248
16:00	161	60	83	137	158	46	3	0	0	0	0	0	0	0	648	26-35	295
17:00	195	71	77	145	144	48	5	1	0	0	0	0	0	0	686	26-35	289
18:00	202	84	101	118	132	37	3	0	0	0	0	0	0	0	677	26-35	250
19:00	195	68	72	113	132	35	5	0	0	0	0	0	0	0	620	26-35	245
20:00	138	36	51	117	128	31	1	0	0	0	0	0	0	0	502	26-35	245
21:00	93	32	44	125	127	31	4	0	0	0	0	0	0	0	456	26-35	252
22:00	84	8	27	78	126	41	8	0	1	0	0	0	0	0	373	26-35	204
23:00	56	0	5	33	78	49	10	2	0	0	0	0	0	0	233	31-40	127
Total	2384	778	1013	1908	2330	851	108	11	2	0	0	0	0	0	9385		
Percent	25.4%	8.3%	10.8%	20.3%	24.8%	9.1%	1.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	09:00	11:00	08:00	06:00	06:00	05:00	06:00						08:00		
Vol.	191	54	71	120	142	63	12	2	1						579		
PM Peak	18:00	18:00	18:00	17:00	16:00	15:00	23:00	23:00	22:00						17:00		
Vol.	202	84	101	145	158	51	10	2	1						686		

Accurate Counts **978-664-2565**

Location : Massachusetts Avenue WB
Location : East of Thorndike Street
City/State: Arlington, MA
Counter : 16429
Westbound

Site Code: 14720022
14720S22

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	23	1	0	20	38	24	4	1	0	0	0	0	0	0	111	30-39	62
01:00	14	3	3	12	15	11	4	2	0	0	0	0	0	0	64	27-36	28
02:00	9	0	1	9	17	3	3	0	0	0	0	0	0	0	42	26-35	26
03:00	5	0	1	1	7	6	2	0	0	0	0	0	0	0	22	30-39	13
04:00	4	0	0	0	2	8	0	0	0	0	0	0	0	0	14	31-40	10
05:00	11	1	2	8	5	8	5	1	0	0	0	0	0	0	41	24-33	13
06:00	49	6	6	22	53	34	10	4	0	0	0	0	0	0	184	31-40	87
07:00	157	36	41	39	119	62	8	1	0	0	0	0	0	0	463	31-40	181
08:00	216	55	66	108	145	50	5	3	0	0	0	0	0	0	648	26-35	253
09:00	215	18	31	58	111	36	11	0	0	0	0	0	0	0	480	26-35	169
10:00	182	33	44	90	90	13	6	0	0	0	0	0	0	0	458	26-35	180
11:00	87	43	48	127	118	33	1	0	0	0	0	0	0	0	457	26-35	245
12 PM	112	43	56	126	165	37	2	2	0	0	0	0	0	0	543	26-35	291
13:00	151	48	61	108	108	27	3	0	0	0	0	0	0	0	506	26-35	216
14:00	104	65	78	135	86	28	7	0	0	0	0	0	0	0	503	26-35	221
15:00	169	56	78	150	142	47	2	0	0	0	0	0	0	0	644	26-35	292
16:00	164	37	76	153	201	55	2	0	0	0	0	0	0	0	688	26-35	354
17:00	204	65	91	119	144	49	2	0	0	0	0	0	0	0	674	26-35	263
18:00	211	94	94	86	138	29	11	1	0	0	0	0	0	0	664	26-35	224
19:00	196	63	98	161	150	36	2	1	0	0	0	0	0	0	707	26-35	311
20:00	169	51	40	130	137	17	2	0	1	0	0	0	0	0	547	26-35	267
21:00	117	43	40	115	134	36	2	0	0	0	0	0	0	0	487	26-35	249
22:00	79	16	18	67	124	39	5	1	0	0	0	0	0	0	349	26-35	191
23:00	59	2	6	31	94	54	11	1	0	0	0	0	0	0	258	31-40	148
Total	2707	779	979	1875	2343	742	110	18	1	0	0	0	0	0	9554		
Percent	28.3%	8.2%	10.2%	19.6%	24.5%	7.8%	1.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	11:00	08:00	07:00	09:00	06:00								08:00	
Vol.	216	55	66	127	145	62	11	4								648	
PM Peak	18:00	18:00	19:00	19:00	16:00	16:00	18:00	12:00	20:00							19:00	
Vol.	211	94	98	161	201	55	11	2	1							707	
Total	5091	1557	1992	3783	4673	1593	218	29	3	0	0	0	0	0	18939		
Percent	26.9%	8.2%	10.5%	20.0%	24.7%	8.4%	1.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 9 MPH
50th Percentile : 27 MPH
85th Percentile : 34 MPH
95th Percentile : 38 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 8456
Percent in Pace : 44.6%
Number of Vehicles > 25 MPH : 10299
Percent of Vehicles > 25 MPH : 54.4%
Mean Speed(Average) : 24 MPH

Accurate Counts

978-664-2565

Location : Foster Street North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 373

Site Code: 14720023
14720V23

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	2	15	0	18	*	*	1	16
12:15	1	19	0	27	*	*	0	23
12:30	0	13	1	5	*	*	0	9
12:45	0	12	2	11	*	*	1	12
01:00	2	11	0	13	*	*	1	12
01:15	1	11	0	8	*	*	0	10
01:30	0	9	1	11	*	*	0	10
01:45	0	9	0	10	*	*	0	10
02:00	0	13	0	18	*	*	0	16
02:15	0	11	0	15	*	*	0	13
02:30	0	14	0	9	*	*	0	12
02:45	1	16	0	17	*	*	0	16
03:00	0	12	0	23	*	*	0	18
03:15	0	16	0	17	*	*	0	16
03:30	0	13	0	9	*	*	0	11
03:45	0	15	0	14	*	*	0	14
04:00	0	16	0	23	*	*	0	20
04:15	1	11	0	13	*	*	0	12
04:30	1	26	1	17	*	*	1	22
04:45	0	18	0	17	*	*	0	18
05:00	1	26	0	18	*	*	0	22
05:15	1	31	3	14	*	*	2	22
05:30	2	14	1	24	*	*	2	19
05:45	2	15	7	18	*	*	4	16
06:00	5	19	3	18	*	*	4	18
06:15	0	15	6	19	*	*	3	17
06:30	12	7	12	12	*	*	12	10
06:45	10	17	14	18	*	*	12	18
07:00	11	15	18	11	*	*	14	13
07:15	18	11	11	10	*	*	14	10
07:30	29	17	22	8	*	*	26	12
07:45	39	10	35	6	*	*	37	8
08:00	50	8	42	3	*	*	46	6
08:15	49	4	54	9	*	*	52	6
08:30	44	11	30	12	*	*	37	12
08:45	28	7	32	6	*	*	30	6
09:00	13	7	16	8	*	*	14	8
09:15	17	11	14	5	*	*	16	8
09:30	10	3	18	11	*	*	14	7
09:45	13	7	3	6	*	*	8	6
10:00	12	7	15	6	*	*	14	6
10:15	7	7	13	2	*	*	10	4
10:30	14	3	18	7	*	*	16	5
10:45	10	1	7	2	*	*	8	2
11:00	9	3	8	5	*	*	8	4
11:15	4	1	22	0	*	*	13	0
11:30	9	2	5	0	*	*	7	1
11:45	4	0	14	4	*	*	9	2
Total	432	559	448	557	0	0	436	558
Combined Total	991		1005		0		994	
Peak	07:45	04:30	07:45	05:30			07:45	04:30
Vol.	182	101	161	79			172	84
P.H.F.	0.910	0.815	0.745	0.823			0.827	0.955
ADT		ADT 998	AADT 998					

Accurate Counts
978-664-2565

Location : Foster Street North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 373

Site Code: 14720023
14720V23

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	3	3	*	3	*	*	3
01:00	*	*	3	1	*	2	*	*	2
02:00	*	*	1	0	*	0	*	*	0
03:00	*	*	0	0	*	0	*	*	0
04:00	*	*	2	1	*	2	*	*	2
05:00	*	*	6	11	*	8	*	*	8
06:00	*	*	27	35	*	31	*	*	31
07:00	*	*	97	86	*	92	*	*	92
08:00	*	*	171	158	*	164	*	*	164
09:00	*	*	53	51	*	52	*	*	52
10:00	*	*	43	53	*	48	*	*	48
11:00	*	*	26	49	*	38	*	*	38
12:00 PM	*	*	59	61	*	60	*	*	60
01:00	*	*	40	42	*	41	*	*	41
02:00	*	*	54	59	*	56	*	*	56
03:00	*	*	56	63	*	60	*	*	60
04:00	*	*	71	70	*	70	*	*	70
05:00	*	*	86	74	*	80	*	*	80
06:00	*	*	58	67	*	62	*	*	62
07:00	*	*	53	35	*	44	*	*	44
08:00	*	*	30	30	*	30	*	*	30
09:00	*	*	28	30	*	29	*	*	29
10:00	*	*	18	17	*	18	*	*	18
11:00	*	*	6	9	*	8	*	*	8
Day Total	0	0	991	1005	0	998	0	0	998
% Avg. WkDay	0.0%	0.0%	99.3%	100.7%	0.0%				
% Avg. Week	0.0%	0.0%	99.3%	100.7%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			171	158		164			164
PM Peak			17:00	17:00		17:00			17:00
Vol.			86	74		80			80
Grand Total	0	0	991	1005	0	998	0	0	998
ADT	ADT 998		AADT 998						

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Site Code: 14720023
14720S23

[illegible]

Accurate Counts **978-664-2565**

Location : Foster Street North of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 373
Southbound

Site Code: 14720023
14720S23

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	17-26	3
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17-26	1
05:00	3	1	5	2	0	0	0	0	0	0	0	0	0	0	11	18-27	8
06:00	3	6	7	14	5	0	0	0	0	0	0	0	0	0	35	20-29	21
07:00	7	25	28	17	6	2	1	0	0	0	0	0	0	0	86	16-25	53
08:00	52	38	47	19	2	0	0	0	0	0	0	0	0	0	158	16-25	85
09:00	8	10	22	8	3	0	0	0	0	0	0	0	0	0	51	16-25	32
10:00	15	11	13	11	3	0	0	0	0	0	0	0	0	0	53	17-26	25
11:00	10	10	24	5	0	0	0	0	0	0	0	0	0	0	49	16-25	34
12 PM	9	17	23	11	1	0	0	0	0	0	0	0	0	0	61	16-25	40
13:00	3	10	17	12	0	0	0	0	0	0	0	0	0	0	42	18-27	29
14:00	15	13	22	6	3	0	0	0	0	0	0	0	0	0	59	16-25	35
15:00	9	21	27	6	0	0	0	0	0	0	0	0	0	0	63	16-25	48
16:00	15	13	27	12	3	0	0	0	0	0	0	0	0	0	70	18-27	42
17:00	15	14	28	14	2	1	0	0	0	0	0	0	0	0	74	17-26	43
18:00	11	22	19	12	3	0	0	0	0	0	0	0	0	0	67	16-25	41
19:00	6	4	18	7	0	0	0	0	0	0	0	0	0	0	35	18-27	25
20:00	10	5	10	2	3	0	0	0	0	0	0	0	0	0	30	16-25	15
21:00	4	7	13	5	1	0	0	0	0	0	0	0	0	0	30	16-25	20
22:00	5	2	7	3	0	0	0	0	0	0	0	0	0	0	17	19-28	12
23:00	2	3	3	1	0	0	0	0	0	0	0	0	0	0	9	14-23	8
Total	202	232	363	169	35	3	1	0	0	0	0	0	0	0	1005		
Percent	20.1%	23.1%	36.1%	16.8%	3.5%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	08:00	07:00	07:00	07:00									08:00	
Vol.	52	38	47	19	6	2	1									158	
PM Peak	14:00	18:00	17:00	17:00	14:00	17:00										17:00	
Vol.	15	22	28	14	3	1										74	
Total	352	421	753	399	65	5	1	0	0	0	0	0	0	0	1996		
Percent	17.6%	21.1%	37.7%	20.0%	3.3%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 13 MPH
50th Percentile : 22 MPH
85th Percentile : 28 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 1174
Percent in Pace : 58.8%
Number of Vehicles > 20 MPH : 1223
Percent of Vehicles > 20 MPH : 61.3%
Mean Speed(Average) : 21 MPH

Accurate Counts
978-664-2565

Location : Lafayette Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13735

Site Code: 14720024
14720V24

Start Time	26-May-10 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	5			0	0				
12:15		1	3			0	3				
12:30		2	3			0	1				
12:45		1	1	4	12	0	2	0	6	4	18
01:00		0	5			0	10				
01:15		0	1			0	4				
01:30		0	0			0	2				
01:45		0	3	0	9	0	1	0	17	0	26
02:00		0	2			0	4				
02:15		0	4			0	2				
02:30		0	2			0	6				
02:45		0	2	0	10	0	0	0	12	0	22
03:00		0	5			0	7				
03:15		0	4			0	2				
03:30		0	6			0	4				
03:45		0	3	0	18	0	7	0	20	0	38
04:00		0	2			0	4				
04:15		2	4			0	5				
04:30		0	4			0	6				
04:45		0	8	2	18	0	0	0	15	2	33
05:00		1	2			0	3				
05:15		0	6			0	2				
05:30		0	1			0	5				
05:45		2	4	3	13	2	10	2	20	5	33
06:00		1	2			2	2				
06:15		2	4			1	11				
06:30		3	4			0	2				
06:45		2	6	8	16	0	3	3	18	11	34
07:00		2	6			2	3				
07:15		5	2			3	5				
07:30		4	1			1	4				
07:45		5	0	16	9	5	2	11	14	27	23
08:00		11	4			8	2				
08:15		5	2			4	8				
08:30		7	1			2	2				
08:45		3	2	26	9	3	3	17	15	43	24
09:00		4	2			3	6				
09:15		4	0			3	4				
09:30		4	0			6	3				
09:45		3	2	15	4	6	3	18	16	33	20
10:00		2	0			3	4				
10:15		5	0			3	2				
10:30		1	0			0	2				
10:45		3	0	11	0	2	1	8	9	19	9
11:00		0	0			3	2				
11:15		7	1			7	1				
11:30		3	2			1	0				
11:45		0	0	10	3	2	2	13	5	23	8
Total		95	121			72	167			167	288
Percent		44.0%	56.0%			30.1%	69.9%			36.7%	63.3%

Accurate Counts **978-664-2565**

Location : Lafayette Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13735

Site Code: 14720024
14720V24

Start Time	27-May-10 Thu	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	8			0	6				
12:15		0	1			0	3				
12:30		0	0			1	4				
12:45		1	6	1	15	2	2	3	15	4	30
01:00		0	1			0	1				
01:15		0	1			0	2				
01:30		2	2			2	4				
01:45		0	2	2	6	0	2	2	9	4	15
02:00		0	2			1	3				
02:15		1	4			2	4				
02:30		0	4			0	5				
02:45		0	2	1	12	0	4	3	16	4	28
03:00		0	3			0	3				
03:15		0	1			0	4				
03:30		0	7			0	8				
03:45		0	1	0	12	0	4	0	19	0	31
04:00		0	8			0	10				
04:15		0	2			0	3				
04:30		0	1			0	2				
04:45		0	8	0	19	0	7	0	22	0	41
05:00		0	4			0	1				
05:15		0	3			0	4				
05:30		0	1			0	2				
05:45		1	3	1	11	1	3	1	10	2	21
06:00		2	2			0	5				
06:15		2	5			0	5				
06:30		3	2			0	5				
06:45		7	4	14	13	2	2	2	17	16	30
07:00		0	2			3	3				
07:15		3	1			0	5				
07:30		3	2			3	3				
07:45		4	2	10	7	1	4	7	15	17	22
08:00		12	2			9	3				
08:15		5	3			3	0				
08:30		2	1			4	3				
08:45		4	1	23	7	1	5	17	11	40	18
09:00		2	2			2	3				
09:15		5	4			2	0				
09:30		2	2			3	4				
09:45		3	0	12	8	2	1	9	8	21	16
10:00		5	1			4	3				
10:15		1	2			4	2				
10:30		6	1			2	3				
10:45		4	0	16	4	2	0	12	8	28	12
11:00		5	0			1	1				
11:15		2	0			4	0				
11:30		2	1			2	1				
11:45		2	1	11	2	0	3	7	5	18	7
Total		91	116			63	155			154	271
Percent		44.0%	56.0%			28.9%	71.1%			36.2%	63.8%
Grand Total		186	237			135	322			321	559
Percent		44.0%	56.0%			29.5%	70.5%			36.5%	63.5%
ADT		ADT 440				AADT 440					

Accurate Counts

978-664-2565

Location : Lafayette Street South of
 Location : Massachusetts Avenue
 City/State: Arlington, MA
 Counter : 13735

Site Code: 14720024
 14720V24

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	4	0	1	3	*	*	*	*	*	*	2	2
01:00	*	*	*	*	0	0	2	2	*	*	*	*	*	*	1	1
02:00	*	*	*	*	0	0	1	3	*	*	*	*	*	*	0	2
03:00	*	*	*	*	0	0	0	0	*	*	*	*	*	*	0	0
04:00	*	*	*	*	2	0	0	0	*	*	*	*	*	*	1	0
05:00	*	*	*	*	3	2	1	1	*	*	*	*	*	*	2	2
06:00	*	*	*	*	8	3	14	2	*	*	*	*	*	*	11	2
07:00	*	*	*	*	16	11	10	7	*	*	*	*	*	*	13	9
08:00	*	*	*	*	26	17	23	17	*	*	*	*	*	*	24	17
09:00	*	*	*	*	15	18	12	9	*	*	*	*	*	*	14	14
10:00	*	*	*	*	11	8	16	12	*	*	*	*	*	*	14	10
11:00	*	*	*	*	10	13	11	7	*	*	*	*	*	*	10	10
12:00 PM	*	*	*	*	12	6	15	15	*	*	*	*	*	*	14	10
01:00	*	*	*	*	9	17	6	9	*	*	*	*	*	*	8	13
02:00	*	*	*	*	10	12	12	16	*	*	*	*	*	*	11	14
03:00	*	*	*	*	18	20	12	19	*	*	*	*	*	*	15	20
04:00	*	*	*	*	18	15	19	22	*	*	*	*	*	*	18	18
05:00	*	*	*	*	13	20	11	10	*	*	*	*	*	*	12	15
06:00	*	*	*	*	16	18	13	17	*	*	*	*	*	*	14	18
07:00	*	*	*	*	9	14	7	15	*	*	*	*	*	*	8	14
08:00	*	*	*	*	9	15	7	11	*	*	*	*	*	*	8	13
09:00	*	*	*	*	4	16	8	8	*	*	*	*	*	*	6	12
10:00	*	*	*	*	0	9	4	8	*	*	*	*	*	*	2	8
11:00	*	*	*	*	3	5	2	5	*	*	*	*	*	*	2	5
Lane	0	0	0	0	216	239	207	218	0	0	0	0	0	0	210	229
Day	0		0		455		425		0		0		0		439	
AM Peak					08:00	09:00	08:00	08:00							08:00	08:00
Vol.					26	18	23	17							24	17
PM Peak					15:00	15:00	16:00	16:00							16:00	15:00
Vol.					18	20	19	22							18	20

Comb. Total	0	0	455	425	0	0	0	439
ADT	ADT 440	AADT 440						

Site Code: 14720024
14720S24

[illegible]

Accurate Counts **978-664-2565**

Location : Lafayette Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13735
Northbound

Site Code: 14720024
14720S24

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	999	Total	Pace Speed	Number in Pace
5/27/10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
01:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7-16	2
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
06:00	4	1	6	3	0	0	0	0	0	0	0	0	0	0	0	14	19-28	10
07:00	2	2	3	3	0	0	0	0	0	0	0	0	0	0	0	10	19-28	8
08:00	8	6	4	4	1	0	0	0	0	0	0	0	0	0	0	23	16-25	10
09:00	1	3	5	3	0	0	0	0	0	0	0	0	0	0	0	12	18-27	10
10:00	12	2	0	1	1	0	0	0	0	0	0	0	0	0	0	16	1-10	10
11:00	6	2	3	0	0	0	0	0	0	0	0	0	0	0	0	11	*	6
12 PM	2	5	4	3	1	0	0	0	0	0	0	0	0	0	0	15	14-23	10
13:00	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	6	8-17	3
14:00	5	3	3	0	0	1	0	0	0	0	0	0	0	0	0	12	14-23	6
15:00	0	3	6	2	1	0	0	0	0	0	0	0	0	0	0	12	18-27	11
16:00	11	2	4	2	0	0	0	0	0	0	0	0	0	0	0	19	1-10	10
17:00	3	3	4	1	0	0	0	0	0	0	0	0	0	0	0	11	13-22	8
18:00	0	2	4	4	3	0	0	0	0	0	0	0	0	0	0	13	19-28	9
19:00	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	7	13-22	7
20:00	1	5	0	1	0	0	0	0	0	0	0	0	0	0	0	7	11-20	6
21:00	1	1	4	2	0	0	0	0	0	0	0	0	0	0	0	8	18-27	7
22:00	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	4	13-22	4
23:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	*	1
Total	65	47	55	31	8	1	0	0	0	0	0	0	0	0	0	207		
Percent	31.4%	22.7%	26.6%	15.0%	3.9%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	08:00	06:00	08:00	08:00												08:00	
Vol.	12	6	6	4	1												23	
PM Peak	16:00	12:00	15:00	18:00	18:00	14:00											16:00	
Vol.	11	5	6	4	3	1											19	
Total	114	87	122	81	18	1	0	0	0	0	0	0	0	0	0	423		
Percent	27.0%	20.6%	28.8%	19.1%	4.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 8 MPH
50th Percentile : 21 MPH
85th Percentile : 28 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 209
Percent in Pace : 49.4%
Number of Vehicles > 20 MPH : 222
Percent of Vehicles > 20 MPH : 52.5%
Mean Speed(Average) : 19 MPH

Site Code: 14720024
14720S24

[illegible]

Accurate Counts **978-664-2565**

Location : Lafayette Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13735
Southbound

Site Code: 14720024
14720S24

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	999	Total	Pace Speed	Number in Pace
5/27/10	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	7-16	2
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	12-21	2
02:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	*	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	*	1
06:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7-16	2
07:00	2	1	3	1	0	0	0	0	0	0	0	0	0	0	0	7	17-26	5
08:00	5	3	7	2	0	0	0	0	0	0	0	0	0	0	0	17	18-27	12
09:00	2	1	2	4	0	0	0	0	0	0	0	0	0	0	0	9	20-29	7
10:00	6	5	0	1	0	0	0	0	0	0	0	0	0	0	0	12	*	6
11:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7	12-21	7
12 PM	3	2	8	2	0	0	0	0	0	0	0	0	0	0	0	15	18-27	12
13:00	3	1	3	1	1	0	0	0	0	0	0	0	0	0	0	9	14-23	4
14:00	5	4	5	2	0	0	0	0	0	0	0	0	0	0	0	16	17-26	10
15:00	1	8	7	3	0	0	0	0	0	0	0	0	0	0	0	19	15-24	15
16:00	4	7	9	2	0	0	0	0	0	0	0	0	0	0	0	22	15-24	16
17:00	2	6	1	1	0	0	0	0	0	0	0	0	0	0	0	10	11-20	8
18:00	3	6	6	2	0	0	0	0	0	0	0	0	0	0	0	17	13-22	12
19:00	3	5	4	3	0	0	0	0	0	0	0	0	0	0	0	15	13-22	10
20:00	1	3	6	1	0	0	0	0	0	0	0	0	0	0	0	11	17-26	10
21:00	2	1	2	2	1	0	0	0	0	0	0	0	0	0	0	8	18-27	5
22:00	1	3	2	1	0	0	1	0	0	0	0	0	0	0	0	8	13-22	6
23:00	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	5	19-28	3
Total	49	66	68	32	2	0	1	0	0	0	0	0	0	0	0	218		
Percent	22.5%	30.3%	31.2%	14.7%	0.9%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	11:00	08:00	09:00												08:00		
Vol.	6	6	7	4												17		
PM Peak	14:00	15:00	16:00	15:00	13:00		22:00									16:00		
Vol.	5	8	9	3	1		1									22		
Total	93	121	165	67	8	2	1	0	0	0	0	0	0	0	0	457		
Percent	20.4%	26.5%	36.1%	14.7%	1.8%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 12 MPH
50th Percentile : 21 MPH
85th Percentile : 26 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 286
Percent in Pace : 62.6%
Number of Vehicles > 20 MPH : 243
Percent of Vehicles > 20 MPH : 53.2%
Mean Speed(Average) : 20 MPH

Site Code: 14720024
14720S24

[illegible]

Accurate Counts **978-664-2565**

Location : Lafayette Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 13735
Northbound, Southbound

Site Code: 14720024
14720S24

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	2	1	0	1	0	0	0	0	0	0	0	0	0	0	4	*	2
01:00	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4	12-21	4
02:00	3	0	1	0	0	0	0	0	0	0	0	0	0	0	4	*	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	*	2
06:00	5	2	6	3	0	0	0	0	0	0	0	0	0	0	16	19-28	11
07:00	4	3	6	4	0	0	0	0	0	0	0	0	0	0	17	18-27	11
08:00	13	9	11	6	1	0	0	0	0	0	0	0	0	0	40	17-26	21
09:00	3	4	7	7	0	0	0	0	0	0	0	0	0	0	21	18-27	14
10:00	18	7	0	2	1	0	0	0	0	0	0	0	0	0	28	1-10	13
11:00	6	8	4	0	0	0	0	0	0	0	0	0	0	0	18	10-19	13
12 PM	5	7	12	5	1	0	0	0	0	0	0	0	0	0	30	16-25	19
13:00	4	3	4	3	1	0	0	0	0	0	0	0	0	0	15	18-27	9
14:00	10	7	8	2	0	1	0	0	0	0	0	0	0	0	28	16-25	15
15:00	1	11	13	5	1	0	0	0	0	0	0	0	0	0	31	16-25	24
16:00	15	9	13	4	0	0	0	0	0	0	0	0	0	0	41	16-25	22
17:00	5	9	5	2	0	0	0	0	0	0	0	0	0	0	21	11-20	14
18:00	3	8	10	6	3	0	0	0	0	0	0	0	0	0	30	17-26	19
19:00	5	8	6	3	0	0	0	0	0	0	0	0	0	0	22	12-21	14
20:00	2	8	6	2	0	0	0	0	0	0	0	0	0	0	18	14-23	14
21:00	3	2	6	4	1	0	0	0	0	0	0	0	0	0	16	19-28	11
22:00	2	4	4	1	0	0	1	0	0	0	0	0	0	0	12	14-23	9
23:00	2	1	0	3	1	0	0	0	0	0	0	0	0	0	7	22-31	4
Total	114	113	123	63	10	1	1	0	0	0	0	0	0	0	425		
Percent	26.8%	26.6%	28.9%	14.8%	2.4%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	08:00	08:00	09:00	08:00											08:00	
Vol.	18	9	11	7	1											40	
PM Peak	16:00	15:00	15:00	18:00	18:00	14:00	22:00									16:00	
Vol.	15	11	13	6	3	1	1									41	
Total	207	208	287	148	26	3	1	0	0	0	0	0	0	0	880		
Percent	23.5%	23.6%	32.6%	16.8%	3.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 10 MPH
50th Percentile : 21 MPH
85th Percentile : 27 MPH
95th Percentile : 30 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 495
Percent in Pace : 56.3%
Number of Vehicles > 20 MPH : 465
Percent of Vehicles > 20 MPH : 52.8%
Mean Speed(Average) : 20 MPH

Accurate Counts
978-664-2565

Location : Fairmont Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10109

Site Code: 14720025
14720V25

Start Time	26-May-10 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	1			1	6				
12:15		0	1			3	6				
12:30		0	7			3	6				
12:45		0	3	0	12	0	3	7	21	7	33
01:00		0	6			0	4				
01:15		0	2			1	3				
01:30		0	3			0	3				
01:45		0	1	0	12	0	5	1	15	1	27
02:00		0	0			0	3				
02:15		0	4			0	6				
02:30		0	1			0	6				
02:45		0	1	0	6	0	7	0	22	0	28
03:00		0	5			1	9				
03:15		0	1			0	3				
03:30		0	2			0	2				
03:45		1	4	1	12	0	8	1	22	2	34
04:00		0	2			1	8				
04:15		0	4			1	6				
04:30		0	5			0	6				
04:45		0	2	0	13	0	11	2	31	2	44
05:00		0	0			1	8				
05:15		2	0			1	7				
05:30		2	3			1	9				
05:45		3	3	7	6	1	11	4	35	11	41
06:00		0	2			0	13				
06:15		4	5			1	11				
06:30		2	6			4	8				
06:45		3	2	9	15	1	10	6	42	15	57
07:00		2	3			7	7				
07:15		6	4			3	6				
07:30		3	3			4	5				
07:45		5	4	16	14	4	9	18	27	34	41
08:00		7	5			5	8				
08:15		5	2			3	7				
08:30		3	1			7	7				
08:45		0	1	15	9	7	5	22	27	37	36
09:00		4	0			5	6				
09:15		1	0			3	6				
09:30		5	3			8	2				
09:45		3	3	13	6	5	6	21	20	34	26
10:00		3	1			4	3				
10:15		2	3			3	7				
10:30		3	1			1	2				
10:45		1	2	9	7	3	2	11	14	20	21
11:00		0	1			6	2				
11:15		5	0			15	2				
11:30		3	0			6	1				
11:45		1	0	9	1	3	2	30	7	39	8
Total		79	113			123	283			202	396
Percent		41.1%	58.9%			30.3%	69.7%			33.8%	66.2%

Accurate Counts
978-664-2565

Location : Fairmont Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10109

Site Code: 14720025
14720V25

Start Time	27-May-10 Thu	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	3			1	7				
12:15		1	4			1	5				
12:30		1	5			1	1				
12:45		0	4	2	16	0	4	3	17	5	33
01:00		0	4			1	8				
01:15		0	2			2	7				
01:30		0	0			0	7				
01:45		1	1	1	7	0	6	3	28	4	35
02:00		1	0			1	10				
02:15		0	3			0	8				
02:30		0	2			0	3				
02:45		0	1	1	6	0	8	1	29	2	35
03:00		0	2			1	6				
03:15		0	3			1	5				
03:30		0	4			0	7				
03:45		0	3	0	12	0	3	2	21	2	33
04:00		0	0			0	8				
04:15		0	2			1	10				
04:30		0	5			0	6				
04:45		0	2	0	9	0	5	1	29	1	38
05:00		0	0			0	7				
05:15		0	2			1	9				
05:30		1	1			1	4				
05:45		1	2	2	5	1	11	3	31	5	36
06:00		0	3			0	8				
06:15		2	4			1	14				
06:30		4	4			3	10				
06:45		4	7	10	18	3	14	7	46	17	64
07:00		2	4			2	4				
07:15		4	1			0	10				
07:30		4	4			13	8				
07:45		3	3	13	12	6	7	21	29	34	41
08:00		1	1			10	7				
08:15		2	0			3	10				
08:30		3	3			8	6				
08:45		2	1	8	5	4	6	25	29	33	34
09:00		4	2			6	5				
09:15		5	4			8	5				
09:30		0	5			3	6				
09:45		1	5	10	16	9	4	26	20	36	36
10:00		5	0			6	5				
10:15		4	0			4	10				
10:30		4	0			9	1				
10:45		1	1	14	1	9	4	28	20	42	21
11:00		3	0			3	4				
11:15		3	1			6	2				
11:30		2	0			4	0				
11:45		0	1	8	2	3	0	16	6	24	8
Total		69	109			136	305			205	414
Percent		38.8%	61.2%			30.8%	69.2%			33.1%	66.9%
Grand Total		148	222			259	588			407	810
Percent		40.0%	60.0%			30.6%	69.4%			33.4%	66.6%
ADT		ADT 608				AADT 608					

Accurate Counts 978-664-2565

Location : Fairmont Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10109

Site Code: 14720025
14720V25

Start Time	24-May-10		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	0	7	2	3	*	*	*	*	*	*	1	5
01:00	*	*	*	*	0	1	1	3	*	*	*	*	*	*	0	2
02:00	*	*	*	*	0	0	1	1	*	*	*	*	*	*	0	0
03:00	*	*	*	*	1	1	0	2	*	*	*	*	*	*	0	2
04:00	*	*	*	*	0	2	0	1	*	*	*	*	*	*	0	2
05:00	*	*	*	*	7	4	2	3	*	*	*	*	*	*	4	4
06:00	*	*	*	*	9	6	10	7	*	*	*	*	*	*	10	6
07:00	*	*	*	*	16	18	13	21	*	*	*	*	*	*	14	20
08:00	*	*	*	*	15	22	8	25	*	*	*	*	*	*	12	24
09:00	*	*	*	*	13	21	10	26	*	*	*	*	*	*	12	24
10:00	*	*	*	*	9	11	14	28	*	*	*	*	*	*	12	20
11:00	*	*	*	*	9	30	8	16	*	*	*	*	*	*	8	23
12:00 PM	*	*	*	*	12	21	16	17	*	*	*	*	*	*	14	19
01:00	*	*	*	*	12	15	7	28	*	*	*	*	*	*	10	22
02:00	*	*	*	*	6	22	6	29	*	*	*	*	*	*	6	26
03:00	*	*	*	*	12	22	12	21	*	*	*	*	*	*	12	22
04:00	*	*	*	*	13	31	9	29	*	*	*	*	*	*	11	30
05:00	*	*	*	*	6	35	5	31	*	*	*	*	*	*	6	33
06:00	*	*	*	*	15	42	18	46	*	*	*	*	*	*	16	44
07:00	*	*	*	*	14	27	12	29	*	*	*	*	*	*	13	28
08:00	*	*	*	*	9	27	5	29	*	*	*	*	*	*	7	28
09:00	*	*	*	*	6	20	16	20	*	*	*	*	*	*	11	20
10:00	*	*	*	*	7	14	1	20	*	*	*	*	*	*	4	17
11:00	*	*	*	*	1	7	2	6	*	*	*	*	*	*	2	6
Lane	0	0	0	0	192	406	178	441	0	0	0	0	0	0	185	427
Day	0		0		598		619		0		0		0		612	
AM Peak					07:00	11:00	10:00	10:00							07:00	08:00
Vol.					16	30	14	28							14	24
PM Peak					18:00	18:00	18:00	18:00							18:00	18:00
Vol.					15	42	18	46							16	44

Comb. Total	0	0	598	619	0	0	0	612
ADT	ADT 608	AADT 608						

Site Code: 14720025
14720S25

[illegible]

Accurate Counts **978-664-2565**

Location : Fairmont Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10109
Northbound

Site Code: 14720025
14720S25

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	*	1
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	17-26	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2	12-21	2
06:00	4	1	3	2	0	0	0	0	0	0	0	0	0	0	10	18-27	6
07:00	4	6	3	0	0	0	0	0	0	0	0	0	0	0	13	12-21	11
08:00	2	3	2	1	0	0	0	0	0	0	0	0	0	0	8	13-22	7
09:00	4	2	2	2	0	0	0	0	0	0	0	0	0	0	10	18-27	6
10:00	5	4	5	0	0	0	0	0	0	0	0	0	0	0	14	16-25	9
11:00	0	4	3	1	0	0	0	0	0	0	0	0	0	0	8	14-23	7
12 PM	3	4	5	3	1	0	0	0	0	0	0	0	0	0	16	17-26	10
13:00	0	4	2	1	0	0	0	0	0	0	0	0	0	0	7	13-22	6
14:00	1	3	1	1	0	0	0	0	0	0	0	0	0	0	6	9-18	4
15:00	4	2	6	0	0	0	0	0	0	0	0	0	0	0	12	16-25	8
16:00	5	1	3	0	0	0	0	0	0	0	0	0	0	0	9	*	5
17:00	1	2	2	0	0	0	0	0	0	0	0	0	0	0	5	13-22	5
18:00	6	8	3	0	1	0	0	0	0	0	0	0	0	0	18	10-19	13
19:00	7	1	4	0	0	0	0	0	0	0	0	0	0	0	12	*	7
20:00	2	2	1	0	0	0	0	0	0	0	0	0	0	0	5	12-21	5
21:00	9	4	3	0	0	0	0	0	0	0	0	0	0	0	16	*	9
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
23:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	*	2
Total	60	54	50	12	2	0	0	0	0	0	0	0	0	0	178		
Percent	33.7%	30.3%	28.1%	6.7%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	07:00	10:00	06:00											10:00		
Vol.	5	6	5	2											14		
PM Peak	21:00	18:00	15:00	12:00	12:00										18:00		
Vol.	9	8	6	3	1										18		
Total	109	117	110	32	2	0	0	0	0	0	0	0	0	0	370		
Percent	29.5%	31.6%	29.7%	8.6%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 8 MPH
50th Percentile : 19 MPH
85th Percentile : 24 MPH
95th Percentile : 28 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 227
Percent in Pace : 61.4%
Number of Vehicles > 20 MPH : 144
Percent of Vehicles > 20 MPH : 38.9%
Mean Speed(Average) : 18 MPH

Site Code: 14720025
14720S25

[illegible]

Accurate Counts **978-664-2565**

Location : Fairmont Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10109
Southbound

Site Code: 14720025
14720S25

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	12-21	3
01:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	12-21	3
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7-16	1
03:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	7-16	1
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
05:00	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	17-26	3
06:00	3	2	2	0	0	0	0	0	0	0	0	0	0	0	7	13-22	4
07:00	5	4	10	2	0	0	0	0	0	0	0	0	0	0	21	17-26	15
08:00	4	8	9	3	1	0	0	0	0	0	0	0	0	0	25	15-24	17
09:00	8	9	7	2	0	0	0	0	0	0	0	0	0	0	26	13-22	16
10:00	10	11	5	2	0	0	0	0	0	0	0	0	0	0	28	11-20	16
11:00	7	6	2	1	0	0	0	0	0	0	0	0	0	0	16	13-22	8
12 PM	5	7	5	0	0	0	0	0	0	0	0	0	0	0	17	11-20	12
13:00	7	13	6	2	0	0	0	0	0	0	0	0	0	0	28	12-21	19
14:00	14	9	6	0	0	0	0	0	0	0	0	0	0	0	29	16-25	15
15:00	2	7	10	2	0	0	0	0	0	0	0	0	0	0	21	16-25	17
16:00	7	14	6	2	0	0	0	0	0	0	0	0	0	0	29	12-21	20
17:00	2	17	12	0	0	0	0	0	0	0	0	0	0	0	31	16-25	29
18:00	15	18	11	1	1	0	0	0	0	0	0	0	0	0	46	16-25	29
19:00	11	14	3	0	1	0	0	0	0	0	0	0	0	0	29	11-20	19
20:00	13	13	3	0	0	0	0	0	0	0	0	0	0	0	29	11-20	18
21:00	7	5	8	0	0	0	0	0	0	0	0	0	0	0	20	16-25	13
22:00	6	5	7	2	0	0	0	0	0	0	0	0	0	0	20	16-25	12
23:00	1	3	2	0	0	0	0	0	0	0	0	0	0	0	6	13-22	6
Total	127	171	119	21	3	0	0	0	0	0	0	0	0	0	441		
Percent	28.8%	38.8%	27.0%	4.8%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	10:00	07:00	08:00	08:00											10:00	
Vol.	10	11	10	3	1											28	
PM Peak	18:00	18:00	17:00	13:00	18:00											18:00	
Vol.	15	18	12	2	1											46	
Total	215	315	252	60	5	0	0	0	0	0	0	0	0	0	847		
Percent	25.4%	37.2%	29.8%	7.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 10 MPH
50th Percentile : 19 MPH
85th Percentile : 24 MPH
95th Percentile : 27 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 567
Percent in Pace : 66.9%
Number of Vehicles > 20 MPH : 317
Percent of Vehicles > 20 MPH : 37.4%
Mean Speed(Average) : 18 MPH

Site Code: 14720025
14720S25

[illegible]

Accurate Counts **978-664-2565**

Location : Fairmont Street South of
Location : Massachusetts Avenue
City/State: Arlington, MA
Counter : 10109
Northbound, Southbound

Site Code: 14720025
14720S25

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/27/10	1	2	2	0	0	0	0	0	0	0	0	0	0	0	5	13-22	5
01:00	0	2	1	1	0	0	0	0	0	0	0	0	0	0	4	16-25	3
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	8-17	2
03:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	7-16	1
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
05:00	0	1	3	1	0	0	0	0	0	0	0	0	0	0	5	17-26	5
06:00	7	3	5	2	0	0	0	0	0	0	0	0	0	0	17	18-27	10
07:00	9	10	13	2	0	0	0	0	0	0	0	0	0	0	34	16-25	23
08:00	6	11	11	4	1	0	0	0	0	0	0	0	0	0	33	16-25	22
09:00	12	11	9	4	0	0	0	0	0	0	0	0	0	0	36	16-25	20
10:00	15	15	10	2	0	0	0	0	0	0	0	0	0	0	42	16-25	25
11:00	7	10	5	2	0	0	0	0	0	0	0	0	0	0	24	11-20	15
12 PM	8	11	10	3	1	0	0	0	0	0	0	0	0	0	33	16-25	21
13:00	7	17	8	3	0	0	0	0	0	0	0	0	0	0	35	14-23	25
14:00	15	12	7	1	0	0	0	0	0	0	0	0	0	0	35	13-22	19
15:00	6	9	16	2	0	0	0	0	0	0	0	0	0	0	33	16-25	25
16:00	12	15	9	2	0	0	0	0	0	0	0	0	0	0	38	15-24	24
17:00	3	19	14	0	0	0	0	0	0	0	0	0	0	0	36	16-25	33
18:00	21	26	14	1	2	0	0	0	0	0	0	0	0	0	64	15-24	40
19:00	18	15	7	0	1	0	0	0	0	0	0	0	0	0	41	13-22	22
20:00	15	15	4	0	0	0	0	0	0	0	0	0	0	0	34	11-20	20
21:00	16	9	11	0	0	0	0	0	0	0	0	0	0	0	36	16-25	20
22:00	6	6	7	2	0	0	0	0	0	0	0	0	0	0	21	13-22	13
23:00	3	3	2	0	0	0	0	0	0	0	0	0	0	0	8	13-22	8
Total	187	225	169	33	5	0	0	0	0	0	0	0	0	0	619		
Percent	30.2%	36.3%	27.3%	5.3%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	10:00	07:00	08:00	08:00										10:00		
Vol.	15	15	13	4	1										42		
PM Peak	18:00	18:00	15:00	12:00	18:00										18:00		
Vol.	21	26	16	3	2										64		
Total	324	432	362	92	7	0	0	0	0	0	0	0	0	0	1217		
Percent	26.6%	35.5%	29.7%	7.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 9 MPH
50th Percentile : 19 MPH
85th Percentile : 24 MPH
95th Percentile : 27 MPH

Stats
10 MPH Pace Speed : 16-25 MPH
Number in Pace : 794
Percent in Pace : 65.2%
Number of Vehicles > 20 MPH : 461
Percent of Vehicles > 20 MPH : 37.9%
Mean Speed(Average) : 18 MPH

Accurate Counts

978-664-2565

Location : Massachusetts Avenue WB
 Location : East of Foster Street
 City/State: Arlington, MA
 Counter : 16192









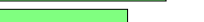















Site Code: 14720026
 14720V26

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	26	133	34	138	*	*	30	136
12:15	35	136	23	142	*	*	29	139
12:30	13	137	21	167	*	*	17	152
12:45	21	110	17	137	*	*	19	124
01:00	19	141	13	145	*	*	16	143
01:15	9	152	8	147	*	*	8	150
01:30	8	132	13	165	*	*	10	148
01:45	5	143	6	153	*	*	6	148
02:00	7	123	14	161	*	*	10	142
02:15	8	141	9	167	*	*	8	154
02:30	4	144	3	151	*	*	4	148
02:45	11	186	5	166	*	*	8	176
03:00	6	174	6	169	*	*	6	172
03:15	6	174	4	181	*	*	5	178
03:30	3	160	4	174	*	*	4	167
03:45	6	186	3	212	*	*	4	199
04:00	5	168	2	185	*	*	4	176
04:15	7	198	5	147	*	*	6	172
04:30	6	184	9	174	*	*	8	179
04:45	11	187	2	168	*	*	6	178
05:00	16	218	16	187	*	*	16	202
05:15	18	193	13	192	*	*	16	192
05:30	25	184	25	229	*	*	25	206
05:45	28	199	16	218	*	*	22	208
06:00	34	187	30	167	*	*	32	177
06:15	44	191	38	182	*	*	41	186
06:30	61	176	69	177	*	*	65	176
06:45	85	175	75	186	*	*	80	180
07:00	101	172	107	192	*	*	104	182
07:15	111	197	133	172	*	*	122	184
07:30	184	192	167	170	*	*	176	181
07:45	199	168	171	172	*	*	185	170
08:00	167	151	167	143	*	*	167	147
08:15	199	126	169	142	*	*	184	134
08:30	163	121	167	136	*	*	165	128
08:45	135	103	158	128	*	*	146	116
09:00	126	105	136	139	*	*	131	122
09:15	116	137	133	131	*	*	124	134
09:30	130	91	152	105	*	*	141	98
09:45	133	98	162	114	*	*	148	106
10:00	118	92	99	65	*	*	108	78
10:15	103	84	87	78	*	*	95	81
10:30	120	80	94	67	*	*	107	74
10:45	143	69	82	63	*	*	112	66
11:00	131	44	77	57	*	*	104	50
11:15	142	39	91	55	*	*	116	47
11:30	138	45	92	46	*	*	115	46
11:45	136	43	134	42	*	*	135	42
Total	3322	6789	3061	7004	0	0	3190	6894
Combined Total	10111		10065		0		10084	
Peak	07:30	05:00	07:30	05:00			07:30	05:00
Vol.	749	794	674	826			712	808
P.H.F.	0.941	0.911	0.985	0.902			0.962	0.971
ADT		ADT 10,088	AADT 10,088					

Accurate Counts
978-664-2565

Location : Massachusetts Avenue WB
Location : East of Foster Street
City/State: Arlington, MA
Counter : 16192

Site Code: 14720026
14720V26

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	95	95	*	95	*	*	95 
01:00	*	*	41	40	*	40	*	*	40 
02:00	*	*	30	31	*	30	*	*	30 
03:00	*	*	21	17	*	19	*	*	19 
04:00	*	*	29	18	*	24	*	*	24 
05:00	*	*	87	70	*	78	*	*	78 
06:00	*	*	224	212	*	218	*	*	218 
07:00	*	*	595	578	*	586	*	*	586 
08:00	*	*	664	661	*	662	*	*	662 
09:00	*	*	505	583	*	544	*	*	544 
10:00	*	*	484	362	*	423	*	*	423 
11:00	*	*	547	394	*	470	*	*	470 
12:00 PM	*	*	516	584	*	550	*	*	550 
01:00	*	*	568	610	*	589	*	*	589 
02:00	*	*	594	645	*	620	*	*	620 
03:00	*	*	694	736	*	715	*	*	715 
04:00	*	*	737	674	*	706	*	*	706 
05:00	*	*	794	826	*	810	*	*	810 
06:00	*	*	729	712	*	720	*	*	720 
07:00	*	*	729	706	*	718	*	*	718 
08:00	*	*	501	549	*	525	*	*	525 
09:00	*	*	431	489	*	460	*	*	460 
10:00	*	*	325	273	*	299	*	*	299 
11:00	*	*	171	200	*	186	*	*	186 
Day Total	0	0	10111	10065	0	10087	0	0	10087
% Avg. WkDay	0.0%	0.0%	100.2%	99.8%	0.0%				
% Avg. Week	0.0%	0.0%	100.2%	99.8%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			664	661		662			662
PM Peak			17:00	17:00		17:00			17:00
Vol.			794	826		810			810
Grand Total	0	0	10111	10065	0	10087	0	0	10087

ADT

ADT 10,088

AADT 10,088

Accurate Counts
978-664-2565

Location : Massachusetts Avenue EB
Location : West of Foster Street
City/State: Arlington, MA
Counter : 18143















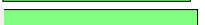




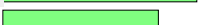




Site Code: 14720026
1472EV26

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	17	164	22	142	*	*	20	153
12:15	11	131	10	135	*	*	10	133
12:30	9	134	11	126	*	*	10	130
12:45	14	131	14	137	*	*	14	134
01:00	12	120	7	145	*	*	10	132
01:15	3	123	8	133	*	*	6	128
01:30	4	112	5	130	*	*	4	121
01:45	5	119	9	149	*	*	7	134
02:00	6	162	3	147	*	*	4	154
02:15	0	138	3	143	*	*	2	140
02:30	5	142	1	153	*	*	3	148
02:45	5	138	4	144	*	*	4	141
03:00	4	153	3	151	*	*	4	152
03:15	3	142	7	167	*	*	5	154
03:30	4	147	1	145	*	*	2	146
03:45	4	151	1	158	*	*	2	154
04:00	2	165	1	172	*	*	2	168
04:15	8	148	10	157	*	*	9	152
04:30	9	166	8	171	*	*	8	168
04:45	17	181	12	159	*	*	14	170
05:00	17	190	21	185	*	*	19	188
05:15	29	181	19	166	*	*	24	174
05:30	25	214	35	175	*	*	30	194
05:45	38	210	41	211	*	*	40	210
06:00	43	188	47	203	*	*	45	196
06:15	71	187	57	192	*	*	64	190
06:30	91	188	83	190	*	*	87	189
06:45	105	178	112	189	*	*	108	184
07:00	116	151	126	189	*	*	121	170
07:15	155	152	163	169	*	*	159	160
07:30	196	131	166	144	*	*	181	138
07:45	203	143	198	128	*	*	200	136
08:00	227	123	219	116	*	*	223	120
08:15	176	124	186	112	*	*	181	118
08:30	198	135	196	119	*	*	197	127
08:45	199	120	185	119	*	*	192	120
09:00	168	108	178	120	*	*	173	114
09:15	173	104	167	112	*	*	170	108
09:30	145	88	152	127	*	*	148	108
09:45	151	93	158	87	*	*	154	90
10:00	142	84	144	72	*	*	143	78
10:15	130	75	130	52	*	*	130	64
10:30	126	57	147	52	*	*	136	54
10:45	137	46	122	42	*	*	130	44
11:00	122	54	145	32	*	*	134	43
11:15	158	32	111	21	*	*	134	26
11:30	134	31	122	25	*	*	128	28
11:45	130	22	138	25	*	*	134	24
Total	3747	6276	3708	6338	0	0	3725	6307
Combined Total	10023		10046		0		10032	
Peak	07:45	05:30	07:45	05:45			07:45	05:30
Vol.	804	799	799	796			801	790
P.H.F.	0.885	0.933	0.912	0.943			0.898	0.940
ADT		ADT 10,034	AADT 10,034					

Accurate Counts
978-664-2565

Location : Massachusetts Avenue EB
Location : West of Foster Street
City/State: Arlington, MA
Counter : 18143

Site Code: 14720026
1472EV26

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	51	57	*	54	*	*	54 
01:00	*	*	24	29	*	26	*	*	26 
02:00	*	*	16	11	*	14	*	*	14 
03:00	*	*	15	12	*	14	*	*	14 
04:00	*	*	36	31	*	34	*	*	34 
05:00	*	*	109	116	*	112	*	*	112 
06:00	*	*	310	299	*	304	*	*	304 
07:00	*	*	670	653	*	662	*	*	662 
08:00	*	*	800	786	*	793	*	*	793 
09:00	*	*	637	655	*	646	*	*	646 
10:00	*	*	535	543	*	539	*	*	539 
11:00	*	*	544	516	*	530	*	*	530 
12:00 PM	*	*	560	540	*	550	*	*	550 
01:00	*	*	474	557	*	516	*	*	516 
02:00	*	*	580	587	*	584	*	*	584 
03:00	*	*	593	621	*	607	*	*	607 
04:00	*	*	660	659	*	660	*	*	660 
05:00	*	*	795	737	*	766	*	*	766 
06:00	*	*	741	774	*	758	*	*	758 
07:00	*	*	577	630	*	604	*	*	604 
08:00	*	*	502	466	*	484	*	*	484 
09:00	*	*	393	446	*	420	*	*	420 
10:00	*	*	262	218	*	240	*	*	240 
11:00	*	*	139	103	*	121	*	*	121 
Day Total	0	0	10023	10046	0	10038	0	0	10038
% Avg. WkDay	0.0%	0.0%	99.9%	100.1%	0.0%				
% Avg. Week	0.0%	0.0%	99.9%	100.1%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			800	786		793			793
PM Peak			17:00	18:00		17:00			17:00
Vol.			795	774		766			766
Grand Total	0	0	10023	10046	0	10038	0	0	10038
ADT	ADT 10,034		AADT 10,034						

Accurate Counts **978-664-2565**

Location : Massachusetts Avenue EB
Location : West of Foster Street
City/State: Arlington, MA
Counter : 18143
Eastbound

Site Code: 14720026
1427ES26

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/26/10	2	0	2	17	20	9	1	0	0	0	0	0	0	0	51	26-35	37
01:00	2	0	2	4	11	4	1	0	0	0	0	0	0	0	24	27-36	16
02:00	1	0	2	4	4	5	0	0	0	0	0	0	0	0	16	27-36	9
03:00	2	2	0	1	6	2	2	0	0	0	0	0	0	0	15	30-39	8
04:00	5	2	3	5	10	9	2	0	0	0	0	0	0	0	36	30-39	19
05:00	11	9	8	12	28	28	10	2	0	1	0	0	0	0	109	31-40	56
06:00	47	23	26	43	115	47	9	0	0	0	0	0	0	0	310	28-37	162
07:00	141	72	74	127	188	58	8	1	1	0	0	0	0	0	670	26-35	315
08:00	185	81	105	183	186	53	6	1	0	0	0	0	0	0	800	26-35	369
09:00	131	87	101	135	137	42	3	0	1	0	0	0	0	0	637	26-35	272
10:00	91	91	71	130	119	28	4	1	0	0	0	0	0	0	535	26-35	249
11:00	93	82	84	132	115	37	1	0	0	0	0	0	0	0	544	26-35	247
12 PM	79	92	92	123	135	34	3	2	0	0	0	0	0	0	560	26-35	258
13:00	61	71	76	112	105	47	2	0	0	0	0	0	0	0	474	26-35	217
14:00	105	74	87	137	130	44	3	0	0	0	0	0	0	0	580	26-35	267
15:00	115	98	82	131	129	37	1	0	0	0	0	0	0	0	593	26-35	260
16:00	165	103	87	171	101	30	3	0	0	0	0	0	0	0	660	26-35	272
17:00	161	111	120	183	180	38	2	0	0	0	0	0	0	0	795	26-35	363
18:00	154	91	104	175	179	36	2	0	0	0	0	0	0	0	741	26-35	354
19:00	97	78	89	142	146	23	2	0	0	0	0	0	0	0	577	26-35	288
20:00	70	77	70	157	113	14	1	0	0	0	0	0	0	0	502	26-35	270
21:00	43	44	54	108	113	29	1	1	0	0	0	0	0	0	393	26-35	221
22:00	33	36	27	63	87	14	2	0	0	0	0	0	0	0	262	26-35	150
23:00	11	5	18	28	49	24	3	0	1	0	0	0	0	0	139	26-35	77
Total	1805	1329	1384	2323	2406	692	72	8	3	1	0	0	0	0	10023		
Percent	18.0%	13.3%	13.8%	23.2%	24.0%	6.9%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	08:00	08:00	07:00	07:00	05:00	05:00	07:00	05:00					08:00		
Vol.	185	91	105	183	188	58	10	2	1	1					800		
PM Peak	16:00	17:00	17:00	17:00	17:00	13:00	12:00	12:00	23:00						17:00		
Vol.	165	111	120	183	180	47	3	2	1						795		

Accurate Counts 978-664-2565

Location : Massachusetts Avenue EB
Location : West of Foster Street
City/State: Arlington, MA
Counter : 18143
Eastbound

Site Code: 14720026
1427ES26

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	5	1	1	8	37	4	1	0	0	0	0	0	0	0	57	26-35	45
01:00	0	0	4	5	9	9	2	0	0	0	0	0	0	0	29	30-39	18
02:00	1	1	1	2	3	2	1	0	0	0	0	0	0	0	11	28-37	7
03:00	0	0	0	2	5	5	0	0	0	0	0	0	0	0	12	29-38	10
04:00	6	2	0	7	7	6	2	1	0	0	0	0	0	0	31	27-36	15
05:00	8	7	6	19	36	33	5	2	0	0	0	0	0	0	116	31-40	69
06:00	42	21	29	53	81	63	9	1	0	0	0	0	0	0	299	31-40	144
07:00	140	67	70	132	183	55	5	1	0	0	0	0	0	0	653	26-35	315
08:00	208	76	84	204	162	47	4	1	0	0	0	0	0	0	786	26-35	366
09:00	102	68	78	183	178	44	2	0	0	0	0	0	0	0	655	26-35	361
10:00	108	72	70	161	116	15	1	0	0	0	0	0	0	0	543	26-35	277
11:00	114	90	75	123	95	17	2	0	0	0	0	0	0	0	516	26-35	218
12 PM	97	80	82	131	126	23	1	0	0	0	0	0	0	0	540	26-35	257
13:00	104	86	89	137	117	20	3	1	0	0	0	0	0	0	557	26-35	254
14:00	109	98	86	138	119	37	0	0	0	0	0	0	0	0	587	26-35	257
15:00	127	88	102	152	123	26	1	2	0	0	0	0	0	0	621	26-35	275
16:00	128	86	106	169	134	34	2	0	0	0	0	0	0	0	659	26-35	303
17:00	198	117	105	164	133	16	4	0	0	0	0	0	0	0	737	26-35	297
18:00	156	93	101	214	158	50	2	0	0	0	0	0	0	0	774	26-35	372
19:00	103	86	92	157	151	37	3	0	1	0	0	0	0	0	630	26-35	308
20:00	62	58	77	128	116	25	0	0	0	0	0	0	0	0	466	26-35	244
21:00	58	53	56	138	119	18	4	0	0	0	0	0	0	0	446	26-35	257
22:00	18	22	37	49	71	19	2	0	0	0	0	0	0	0	218	26-35	120
23:00	3	4	11	29	38	14	4	0	0	0	0	0	0	0	103	26-35	67
Total	1897	1276	1362	2505	2317	619	60	9	1	0	0	0	0	0	10046		
Percent	18.9%	12.7%	13.6%	24.9%	23.1%	6.2%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	11:00	08:00	08:00	07:00	06:00	06:00	05:00							08:00		
Vol.	208	90	84	204	183	63	9	2							786		
PM Peak	17:00	17:00	16:00	18:00	18:00	18:00	17:00	15:00	19:00						18:00		
Vol.	198	117	106	214	158	50	4	2	1						774		
Total	3702	2605	2746	4828	4723	1311	132	17	4	1	0	0	0	0	20069		
Percent	18.4%	13.0%	13.7%	24.1%	23.5%	6.5%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 13 MPH
50th Percentile : 27 MPH
85th Percentile : 34 MPH
95th Percentile : 37 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 9551
Percent in Pace : 47.6%
Number of Vehicles > 25 MPH : 11016
Percent of Vehicles > 25 MPH : 54.9%
Mean Speed(Average) : 24 MPH

Site Code: 14720026
14720S26

[illegible]

Accurate Counts 978-664-2565

Location : Massachusetts Avenue WB
Location : East of Foster Street
City/State: Arlington, MA
Counter : 16192
Westbound

Site Code: 14720026
14720S26

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
5/27/10	22	2	4	32	26	7	2	0	0	0	0	0	0	0	95	26-35	58
01:00	10	0	5	13	10	2	0	0	0	0	0	0	0	0	40	26-35	23
02:00	6	2	5	12	4	2	0	0	0	0	0	0	0	0	31	21-30	17
03:00	3	0	2	1	9	1	1	0	0	0	0	0	0	0	17	26-35	10
04:00	5	0	0	3	5	3	2	0	0	0	0	0	0	0	18	28-37	10
05:00	20	4	5	17	15	7	2	0	0	0	0	0	0	0	70	26-35	32
06:00	46	10	19	62	61	11	2	1	0	0	0	0	0	0	212	26-35	123
07:00	114	31	101	196	119	15	2	0	0	0	0	0	0	0	578	26-35	315
08:00	120	39	147	228	115	10	1	1	0	0	0	0	0	0	661	21-30	375
09:00	108	61	156	186	60	12	0	0	0	0	0	0	0	0	583	21-30	342
10:00	335	4	6	15	2	0	0	0	0	0	0	0	0	0	362	1-10	225
11:00	263	16	50	36	27	2	0	0	0	0	0	0	0	0	394	1-10	178
12 PM	99	48	159	196	73	9	0	0	0	0	0	0	0	0	584	21-30	355
13:00	116	51	187	201	50	5	0	0	0	0	0	0	0	0	610	21-30	388
14:00	109	56	189	199	82	10	0	0	0	0	0	0	0	0	645	21-30	388
15:00	130	50	212	260	76	8	0	0	0	0	0	0	0	0	736	21-30	472
16:00	118	58	156	231	102	9	0	0	0	0	0	0	0	0	674	21-30	387
17:00	153	54	193	296	117	11	2	0	0	0	0	0	0	0	826	21-30	489
18:00	156	85	198	191	76	6	0	0	0	0	0	0	0	0	712	21-30	389
19:00	150	69	180	228	72	7	0	0	0	0	0	0	0	0	706	21-30	408
20:00	129	63	131	171	50	5	0	0	0	0	0	0	0	0	549	21-30	302
21:00	105	36	99	165	77	7	0	0	0	0	0	0	0	0	489	21-30	264
22:00	57	15	38	99	55	9	0	0	0	0	0	0	0	0	273	26-35	154
23:00	45	2	25	65	52	10	1	0	0	0	0	0	0	0	200	26-35	117
Total	2419	756	2267	3103	1335	168	15	2	0	0	0	0	0	0	10065		
Percent	24.0%	7.5%	22.5%	30.8%	13.3%	1.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	10:00	09:00	09:00	08:00	07:00	07:00	00:00	06:00								08:00	
Vol.	335	61	156	228	119	15	2	1								661	
PM Peak	18:00	18:00	15:00	17:00	17:00	17:00	17:00									17:00	
Vol.	156	85	212	296	117	11	2									826	
Total	3977	1592	4673	6536	2971	394	31	2	0	0	0	0	0	0	20176		
Percent	19.7%	7.9%	23.2%	32.4%	14.7%	2.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 12 MPH
50th Percentile : 25 MPH
85th Percentile : 31 MPH
95th Percentile : 35 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 11209
Percent in Pace : 55.6%
Number of Vehicles > 25 MPH : 9934
Percent of Vehicles > 25 MPH : 49.2%
Mean Speed(Average) : 23 MPH

Accurate Counts 978-664-2565

Location : Winter Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 103













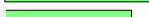











Site Code: 14720015
14720V15

Start Time	Wed A.M.	26-May-1 P.M.	Thu A.M.	27-May-1 P.M.	Fri A.M.	28-May-1 P.M.	Daily Average	
							A.M.	P.M.
12:00	2	33	4	33	*	*	3	33
12:15	1	24	0	29	*	*	0	26
12:30	2	35	0	29	*	*	1	32
12:45	2	45	1	28	*	*	2	36
01:00	2	21	2	27	*	*	2	24
01:15	1	38	3	19	*	*	2	28
01:30	1	28	0	32	*	*	0	30
01:45	2	26	0	24	*	*	1	25
02:00	0	23	0	22	*	*	0	22
02:15	2	21	1	56	*	*	2	38
02:30	1	46	2	32	*	*	2	39
02:45	1	27	3	38	*	*	2	32
03:00	0	40	0	48	*	*	0	44
03:15	0	47	1	42	*	*	0	44
03:30	2	38	0	40	*	*	1	39
03:45	0	43	0	33	*	*	0	38
04:00	1	45	1	55	*	*	1	50
04:15	0	61	0	49	*	*	0	55
04:30	1	46	2	73	*	*	2	60
04:45	0	48	0	57	*	*	0	52
05:00	3	43	2	60	*	*	2	52
05:15	2	50	4	48	*	*	3	49
05:30	2	47	3	55	*	*	2	51
05:45	5	35	5	25	*	*	5	30
06:00	10	47	7	45	*	*	8	46
06:15	10	40	16	56	*	*	13	48
06:30	19	49	14	52	*	*	16	50
06:45	11	44	12	48	*	*	12	46
07:00	19	36	19	59	*	*	19	48
07:15	27	32	38	43	*	*	32	38
07:30	26	30	28	47	*	*	27	38
07:45	27	38	30	39	*	*	28	38
08:00	31	17	36	28	*	*	34	22
08:15	49	28	58	27	*	*	54	28
08:30	30	18	42	28	*	*	36	23
08:45	33	12	43	36	*	*	38	24
09:00	20	32	24	30	*	*	22	31
09:15	28	16	32	36	*	*	30	26
09:30	24	12	51	17	*	*	38	14
09:45	34	15	37	10	*	*	36	12
10:00	37	12	30	12	*	*	34	12
10:15	33	19	31	23	*	*	32	21
10:30	24	5	24	11	*	*	24	8
10:45	19	3	33	13	*	*	26	8
11:00	21	9	22	11	*	*	22	10
11:15	33	8	32	8	*	*	32	8
11:30	33	6	26	6	*	*	30	6
11:45	24	5	29	8	*	*	26	6
Total	655	1443	748	1647	0	0	702	1540
Combined Total	2098		2395		0		2242	
Peak	08:00	04:00	08:00	04:15			08:00	04:15
Vol.	143	200	179	239			162	219
P.H.F.	0.730	0.820	0.772	0.818			0.750	0.913
ADT		ADT 2,246	AADT 2,246					

Accurate Counts
978-664-2565

Location : Winter Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 103

Site Code: 14720015
14720V15

Start Time	Mon 24-May-10	Tue 25-May-10	Wed 26-May-10	Thu 27-May-10	Fri 28-May-10	Average Day	Sat 29-May-10	Sun 30-May-10	Week Average
12:00 AM	*	*	7	5	*	6	*	*	6 
01:00	*	*	6	5	*	6	*	*	6 
02:00	*	*	4	6	*	5	*	*	5 
03:00	*	*	2	1	*	2	*	*	2 
04:00	*	*	2	3	*	2	*	*	2 
05:00	*	*	12	14	*	13	*	*	13 
06:00	*	*	50	49	*	50	*	*	50 
07:00	*	*	99	115	*	107	*	*	107 
08:00	*	*	143	179	*	161	*	*	161 
09:00	*	*	106	144	*	125	*	*	125 
10:00	*	*	113	118	*	116	*	*	116 
11:00	*	*	111	109	*	110	*	*	110 
12:00 PM	*	*	137	119	*	128	*	*	128 
01:00	*	*	113	102	*	108	*	*	108 
02:00	*	*	117	148	*	132	*	*	132 
03:00	*	*	168	163	*	166	*	*	166 
04:00	*	*	200	234	*	217	*	*	217 
05:00	*	*	175	188	*	182	*	*	182 
06:00	*	*	180	201	*	190	*	*	190 
07:00	*	*	136	188	*	162	*	*	162 
08:00	*	*	75	119	*	97	*	*	97 
09:00	*	*	75	93	*	84	*	*	84 
10:00	*	*	39	59	*	49	*	*	49 
11:00	*	*	28	33	*	30	*	*	30 
Day Total	0	0	2098	2395	0	2248	0	0	2248
% Avg. WkDay	0.0%	0.0%	93.3%	106.5%	0.0%				
% Avg. Week	0.0%	0.0%	93.3%	106.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	08:00		08:00			08:00
Vol.			143	179		161			161
PM Peak			16:00	16:00		16:00			16:00
Vol.			200	234		217			217
Grand Total	0	0	2098	2395	0	2248	0	0	2248
ADT	ADT 2,246		AADT 2,246						

Accurate Counts **978-664-2565**

Location : Winter Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 103
Direction 1

Site Code: 14720015
14720S15

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
5/26/10	0	1	1	4	1	0	0	0	0	0	0	0	0	0	7	20-29	6
01:00	0	0	3	3	0	0	0	0	0	0	0	0	0	0	6	19-28	6
02:00	0	0	1	2	1	0	0	0	0	0	0	0	0	0	4	22-31	4
03:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	7-16	1
04:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	7-16	1
05:00	3	0	1	4	3	0	1	0	0	0	0	0	0	0	12	24-33	8
06:00	0	2	12	20	16	0	0	0	0	0	0	0	0	0	50	24-33	36
07:00	9	6	25	43	15	1	0	0	0	0	0	0	0	0	99	21-30	68
08:00	31	30	42	35	5	0	0	0	0	0	0	0	0	0	143	21-30	77
09:00	23	11	31	36	5	0	0	0	0	0	0	0	0	0	106	21-30	67
10:00	26	18	41	27	1	0	0	0	0	0	0	0	0	0	113	21-30	68
11:00	27	49	33	2	0	0	0	0	0	0	0	0	0	0	111	16-25	82
12 PM	67	45	20	5	0	0	0	0	0	0	0	0	0	0	137	11-20	65
13:00	20	9	37	40	6	0	1	0	0	0	0	0	0	0	113	21-30	77
14:00	16	9	44	38	8	1	0	0	1	0	0	0	0	0	117	21-30	82
15:00	24	12	67	53	12	0	0	0	0	0	0	0	0	0	168	21-30	120
16:00	37	15	72	56	20	0	0	0	0	0	0	0	0	0	200	21-30	128
17:00	26	9	48	66	24	2	0	0	0	0	0	0	0	0	175	21-30	114
18:00	15	14	67	59	23	2	0	0	0	0	0	0	0	0	180	21-30	126
19:00	16	15	45	54	6	0	0	0	0	0	0	0	0	0	136	21-30	99
20:00	6	4	32	28	5	0	0	0	0	0	0	0	0	0	75	21-30	60
21:00	4	12	32	25	2	0	0	0	0	0	0	0	0	0	75	21-30	57
22:00	0	2	14	19	4	0	0	0	0	0	0	0	0	0	39	21-30	33
23:00	1	3	9	12	3	0	0	0	0	0	0	0	0	0	28	21-30	21
Total	351	268	677	633	160	6	2	0	1	0	0	0	0	0	2098		
Percent	16.7%	12.8%	32.3%	30.2%	7.6%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	11:00	08:00	07:00	06:00	07:00	05:00								08:00		
Vol.	31	49	42	43	16	1	1								143		
PM Peak	12:00	12:00	16:00	17:00	17:00	17:00	13:00		14:00						16:00		
Vol.	67	45	72	66	24	2	1		1						200		

Accurate Counts **978-664-2565**

Location : Winter Street South of
Location : Broadway
City/State: Arlington, MA
Counter : 103
Direction 1

Site Code: 14720015
14720S15

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
5/27/10	0	0	0	2	3	0	0	0	0	0	0	0	0	0	5	24-33	5
01:00	0	0	0	4	0	1	0	0	0	0	0	0	0	0	5	20-29	4
02:00	0	0	1	3	1	1	0	0	0	0	0	0	0	0	6	19-28	4
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	12-21	1
04:00	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	*	2
05:00	1	0	3	8	0	2	0	0	0	0	0	0	0	0	14	21-30	11
06:00	2	3	15	17	10	2	0	0	0	0	0	0	0	0	49	21-30	32
07:00	15	12	32	38	18	0	0	0	0	0	0	0	0	0	115	21-30	70
08:00	31	36	53	47	11	1	0	0	0	0	0	0	0	0	179	21-30	100
09:00	32	20	46	40	6	0	0	0	0	0	0	0	0	0	144	21-30	86
10:00	27	8	47	25	9	1	0	1	0	0	0	0	0	0	118	21-30	72
11:00	17	14	36	35	7	0	0	0	0	0	0	0	0	0	109	21-30	71
12 PM	22	18	51	26	2	0	0	0	0	0	0	0	0	0	119	21-30	77
13:00	13	17	40	27	5	0	0	0	0	0	0	0	0	0	102	21-30	67
14:00	24	30	48	39	6	1	0	0	0	0	0	0	0	0	148	21-30	87
15:00	22	18	57	54	12	0	0	0	0	0	0	0	0	0	163	21-30	111
16:00	36	17	79	87	15	0	0	0	0	0	0	0	0	0	234	21-30	166
17:00	24	21	67	61	13	2	0	0	0	0	0	0	0	0	188	21-30	128
18:00	35	32	72	51	9	2	0	0	0	0	0	0	0	0	201	21-30	123
19:00	42	22	75	45	3	1	0	0	0	0	0	0	0	0	188	21-30	120
20:00	24	22	38	26	7	2	0	0	0	0	0	0	0	0	119	19-28	64
21:00	16	20	30	22	5	0	0	0	0	0	0	0	0	0	93	18-27	52
22:00	6	6	22	19	6	0	0	0	0	0	0	0	0	0	59	21-30	41
23:00	1	1	10	11	8	2	0	0	0	0	0	0	0	0	33	21-30	21
Total	392	317	823	687	157	18	0	1	0	0	0	0	0	0	2395		
Percent	16.4%	13.2%	34.4%	28.7%	6.6%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	08:00	08:00	08:00	07:00	05:00		10:00								08:00	
Vol.	32	36	53	47	18	2		1								179	
PM Peak	19:00	18:00	16:00	16:00	16:00	17:00										16:00	
Vol.	42	32	79	87	15	2										234	
Total	743	585	1500	1320	317	24	2	1	1	0	0	0	0	0	4493		
Percent	16.5%	13.0%	33.4%	29.4%	7.1%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 14 MPH
50th Percentile : 24 MPH
85th Percentile : 29 MPH
95th Percentile : 32 MPH

Stats
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 2820
Percent in Pace : 62.8%
Number of Vehicles > 20 MPH : 3165
Percent of Vehicles > 20 MPH : 70.4%
Mean Speed(Average) : 22 MPH

INTERSECTION CRASH RATE FORMS

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 10/21/08

DISTRICT : 4 UNSIGNALIZED : ☐ SIGNALIZED : ☒

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Linwood Street & Foster Street

RIN #

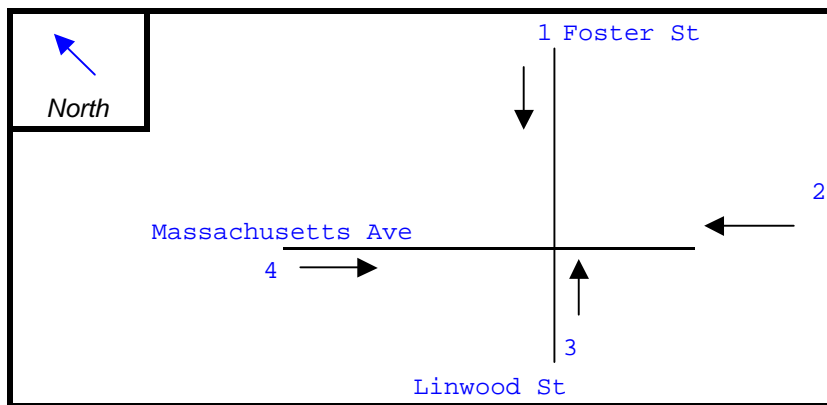
RIN #

RIN #

RIN #

RIN #

**INTERSECTION
DIAGRAM**
(Label Approaches)



INTERSECTION

REF #

Peak Hour Volumes (PM)

APPROACH :	1	2	3	4	5	6
DIRECTION :	SW	NW	NE	SE		
VOLUMES (PM) :	69	791	39	815		

" K " FACTOR : 0.118 APPROACH ADT : 14,578 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 3 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (A) : 0.60

CRASH RATE CALCULATION : 0.113 RATE = $\frac{(A \times 1,000,000)}{(ADT \times 365)}$

Comments : _____

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 10/21/08

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Marion Road & Bates Road

RIN #

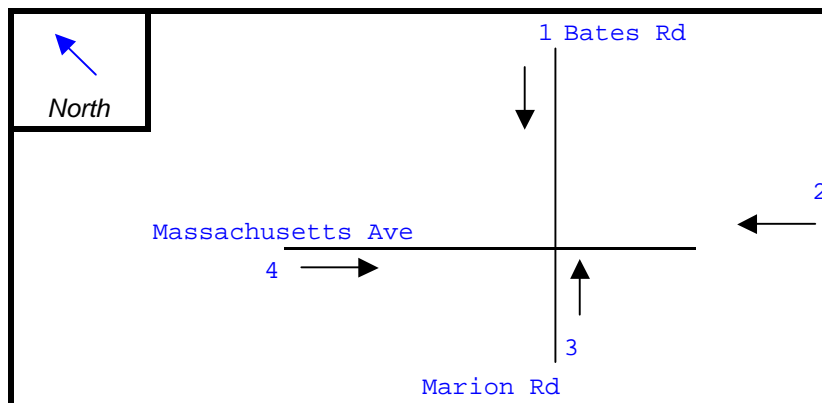
RIN #

RIN #

RIN #

RIN #

**INTERSECTION
DIAGRAM**
(Label Approaches)



INTERSECTION
REF #

Peak Hour Volumes (PM)

APPROACH :	1	2	3	4	5	6
DIRECTION :	SW	NW	NE	SE		
VOLUMES (PM) :	26	787	220	844		

" K " FACTOR : 0.117 APPROACH ADT : 16,009 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 6 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (A) : 1.20

CRASH RATE CALCULATION : 0.205 RATE = $\frac{(A \times 1,000,000)}{(ADT \times 365)}$

Comments : _____

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 10/21/08

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Orvis Road & Grafton Street

RIN #

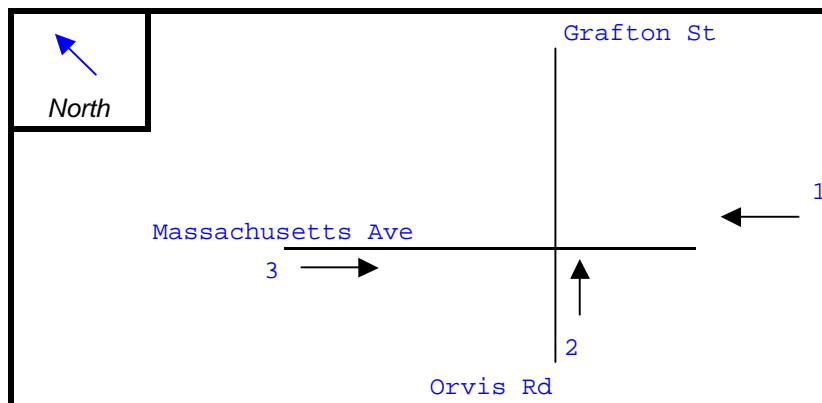
RIN #

RIN #

RIN #

RIN #

**INTERSECTION
DIAGRAM**
(Label Approaches)



INTERSECTION
REF #

Peak Hour Volumes (PM)

APPROACH :	1	2	3	4	5	6
DIRECTION :	NW	NE	SE			
VOLUMES (PM) :	908	86	885			

" K " FACTOR : 0.119 APPROACH ADT : 15,744 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 14 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (A) : 2.80

CRASH RATE CALCULATION : 0.487 RATE = $\frac{(A \times 1,000,000)}{(ADT \times 365)}$

Comments : _____

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 10/21/08

DISTRICT : 4 UNSIGNALIZED : ☐ SIGNALIZED : ☒

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Lake Street & Winter Street

RIN #

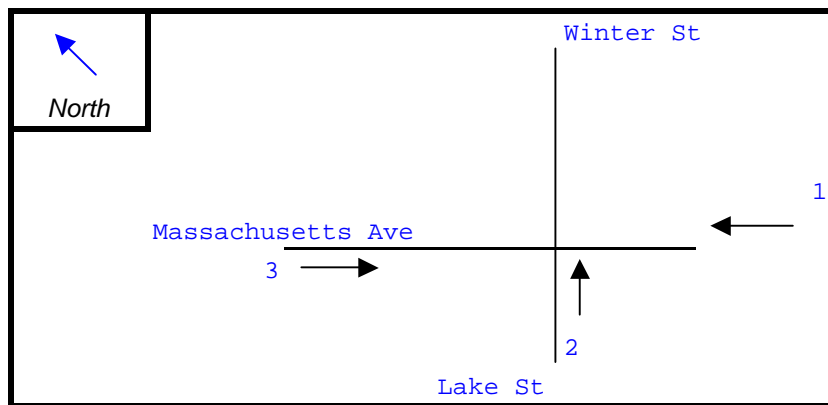
RIN #

RIN #

RIN #

RIN #

**INTERSECTION
DIAGRAM**
(Label Approaches)



INTERSECTION

REF #

Peak Hour Volumes (PM)

APPROACH :	1	2	3	4	5	6
DIRECTION :	NW	NE	SE			
VOLUMES (PM) :	794	304	707			

" K " FACTOR : 0.124 APPROACH ADT : 14,551 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 23 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (A) : 4.60

CRASH RATE CALCULATION : 0.866 RATE = $\frac{(A \times 1,000,000)}{(ADT \times 365)}$

Comments : _____

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 10/21/08

DISTRICT : 4 UNSIGNALIZED : ☐ SIGNALIZED : ☒

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Thorndike Street & Teel Street

RIN #

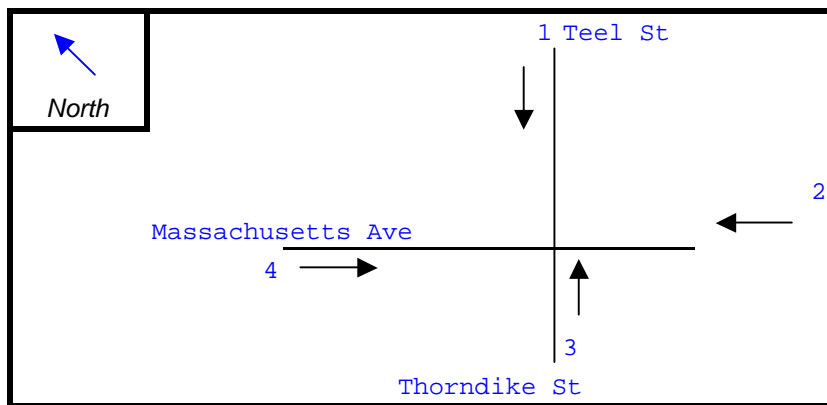
RIN #

RIN #

RIN #

RIN #

**INTERSECTION
DIAGRAM**
(Label Approaches)



INTERSECTION

REF #

Peak Hour Volumes (PM)

APPROACH :	1	2	3	4	5	6
DIRECTION :	SW	NW	NE	SE		
VOLUMES (PM) :	12	852	52	663		

" K " FACTOR : 0.108 APPROACH ADT : 14,609 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 4 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (A) : 0.80

CRASH RATE CALCULATION : 0.150 RATE = $\frac{(A \times 1,000,000)}{(ADT \times 365)}$

Comments : _____

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 10/21/08

DISTRICT : 4 UNSIGNALIZED : ☐ SIGNALIZED : ☒

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Alewife Brook Parkway

RIN #

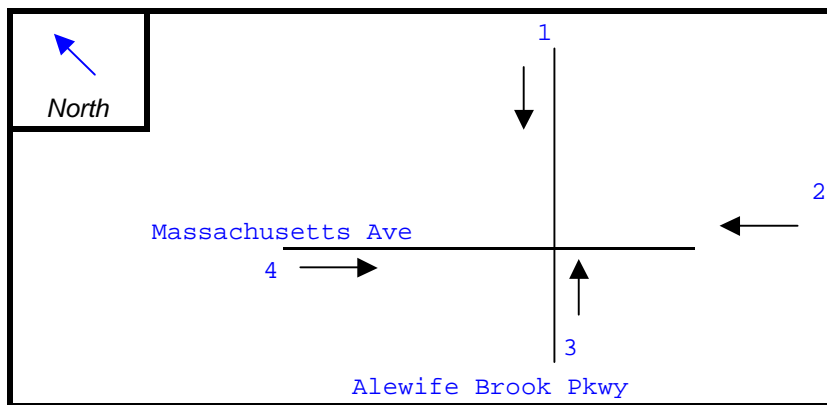
RIN #

RIN #

RIN #

RIN #

**INTERSECTION
DIAGRAM**
(Label Approaches)



INTERSECTION

REF #

Peak Hour Volumes (PM)

APPROACH :	1	2	3	4	5	6
DIRECTION :	SW	NW	NE	SE		
VOLUMES (PM) :	805	890	1171	679		

" K " FACTOR : 0.117 APPROACH ADT : 30,235 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 35 # OF YEARS : 5 AVERAGE # OF ACCIDENTS (A) : 7.00

CRASH RATE CALCULATION : 0.634 RATE = $\frac{(A \times 1,000,000)}{(ADT \times 365)}$

Comments :

SIGNAL WARRANT ANALYSIS

SIGNAL REMOVAL ANALYSIS WORKSHEET

I. INTERSECTION INVENTORY

INTERSECTION: TEEL / THORNDIKE / MASS AVE
CITY: ARLINGTON, MASS

MAJOR APPROACH: MASS AVE

LANES PER APPROACH: 2 ADT: 15,300

SIDE STREET APPROACH: TEEL (E); THORNDIKE (W)

LANES PER APPROACH: 1 ADT: 460

MAJOR STREET SPEED: 30

SIDE STREET SIGHT DISTANCE: 400+

II. PRELIMINARY SCREENING

1. MINIMUM REQUIRED SIGHT DISTANCE
(FROM TABLE 2, P.16)
* Is the side street approach's sight distance less than the minimum?
2. SPECIAL SITE CONDITIONS
* Do special site conditions make signal removal institutionally infeasible?
(Comment on attached sheet(s)).
3. TRAFFIC SIGNAL WARRANTS
* Does the existing (or future) traffic signal installation meet warrants?
4. ORIGINAL INSTALLATION JUSTIFICATION
* Did any special reasons justify the original installation?
* Are these reasons still valid?
(Comment on attached sheet(s)).

YES	NO
	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> **

If any of the above questions are answered "yes" - defer signal removal. Otherwise, proceed to a detailed analysis.

** ORIGINAL JR HIGH SCHOOL ON TEEL WARRANTED SIGNAL IN 1950-60. LAND USE TODAY DOES NOT WARRANT PLACEMENT

SIGNAL REMOVAL ANALYSIS WORKSHEET

I. INTERSECTION INVENTORY

INTERSECTION: FOSTER / LINWOOD / MASS AVE
CITY: ARLINGTON, MASS

MAJOR APPROACH: MASS AVE (N-S)

LANES PER APPROACH: 2 ADT: 17,300(N); 19,300(S)

SIDE STREET APPROACH: FOSTER (E); LINWOOD (W)
LANES PER APPROACH: 2 ADT: 810 (FOSTER)

MAJOR STREET SPEED: 30 MPH

SIDE STREET SIGHT DISTANCE: 400'

II. PRELIMINARY SCREENING

1. MINIMUM REQUIRED SIGHT DISTANCE
(FROM TABLE 2, P.16)
* Is the side street approach's sight distance less than the minimum?
2. SPECIAL SITE CONDITIONS
* Do special site conditions make signal removal institutionally infeasible?
(Comment on attached sheet(s)).
3. TRAFFIC SIGNAL WARRANTS
* Does the existing (or future) traffic signal installation meet warrants?
4. ORIGINAL INSTALLATION JUSTIFICATION
* Did any special reasons justify the original installation?
* Are these reasons still valid?
(Comment on attached sheet(s)).

YES	NO
	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**

If any of the above questions are answered "yes" - defer signal removal. Otherwise, proceed to a detailed analysis.

** GIRBS SCHOOL AN ACTIVE SCHOOL IN 1950'S. SIGNAL IN PLACE < 1960. LAND USE CHANGE TODAY DOES NOT WARRANT PLACEMENT.

— BATES RD —

USE TEST ST AT TEMPORAL DISTRIBUTION VOLUME RATE

TEST STOUT			Rates		
	TOT VOL	d (K)	TOTAL VOL	RAISED VOL	APPROXIM VOL
				ADT = 7186	58
12-1 AM	3	—	—		
1	2	—	—		
2	2	—	—		
3	0	0	—		
4	3	—	—		
5	2	—	—		
6	11	2		114	57
7	31	7	85 + 343 = 429	397	199
8	46	10	73 + 338 = 411	568	341
9	17	4		227	114
10	21	7		397	199
11	21	5		284	176
12 Noon	26	6		341	157
1 PM	26	6		341	157
2	55	8		454	227
3	21	6		341	126
4	22	5	193 + 166 = 359	284	114
5	35	8	202 + 221 = 423	454	191
6	29	9		511	153
7	57	6		341	140
8	17	4		227	75
9	27	5		284	77
10	8	2		114	31
11	1	—		—	

USED FOR WARRANTS

449
(Two-way)

$$\frac{429}{0.07} = 6129$$

$$\frac{411}{0.1} = 4110$$

$$\frac{359}{0.05} = 7180$$

$$\frac{423}{0.08} = 5288$$

$\bar{X} = 5676 \leftarrow$ USE AS ADT

BATES/MARION/MASS AVE

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

- A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or
- B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume						
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)	
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b 70% ^c
1	1	500	400	350	150	120 105
2 or more	1	800	480	420	150	120 105
2 or more	2 or more	800	480	420	200	160 140
1	2 or more	500	400	350	200	160 140

Condition B—Interruption of Continuous Traffic						
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)	
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b 70% ^c
1	1	750	600	525	75	60 53
2 or more	1	900	720	630	75	60 53
2 or more	2 or more	900	720	630	100	80 70
1	2 or more	750	600	525	100	80 70

^a Basic minimum hourly volume.

^b Used for combination of Conditions A and B after adequate trial of other remedial measures.

^c May be used when the major-street speed exceeds 70 km/h (40 mph) or in an isolated community with a population of less than 10,000.

Condition A

Warrant Met?

Yes No

Condition B

Warrant Met?

Yes No

EXISTING 2000 VOLUMES

Major Street Vehicles Per Hour

Minor Street Vehicles Per Hour

6	389	57	
7	885	199	Y
8	910	341	Y
9	937	114	Y
10	874	199	Y
11	850	176	Y
12	900	157	Y
1	869	157	Y
2	898	227	Y
3	866	136	Y
4	966	114	Y
5	949	191	Y
6	992	153	Y
7	857	150	Y
8	1057	25	Y

BATES (1way-5B)

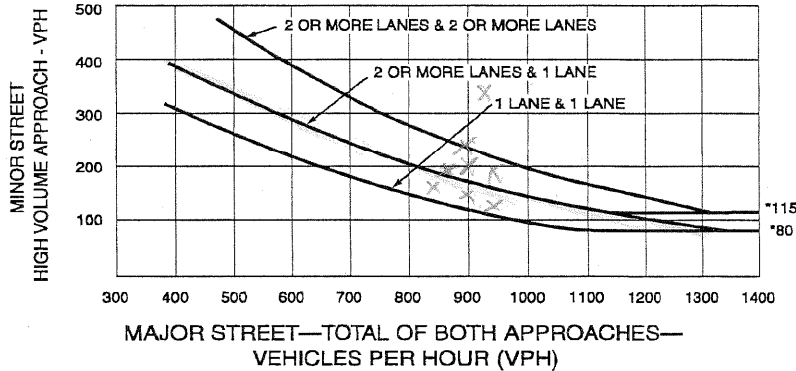
RATES/MARION/MASS AVE

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.03 Warrant 2, Four Hour Vehicular Volume

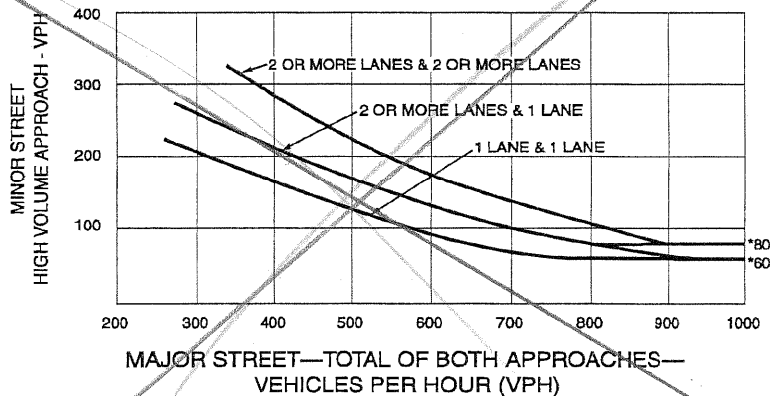
Plot Value : ☒ (Click and drag to appropriate chart)

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant Met?

Yes No

FST Signal Warrants Analysis - MUTCD 2000

DATES / MARION / MASS AVE

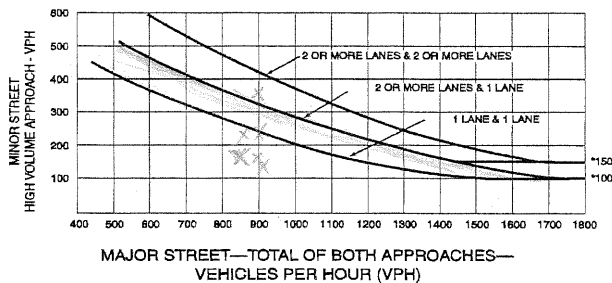
Section 4C.04 Warrant 3. Peak Hour

The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

- A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
 1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and
 2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
 3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.
- B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Plot Value : **X** (Click and drag to appropriate chart)

Figure 4C-3. Warrant 3, Peak Hour

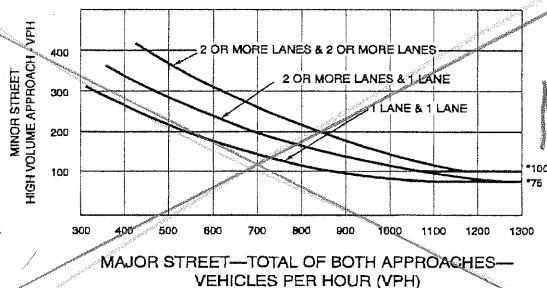


*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

⁰
40 Met

- WARRANT 1
- CONDITION A
- " B
- WARRANT 2
- WARRANT 3

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant Met?
Yes No

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.05 Warrant 4. Pedestrian Volume

ORVIS RD

DCP 12/29/08

USING TEEL AS TEMPORAL DISTRIBUTION BASE

	TEEL SF			ORVIS SF		NB
	SB	Y _L (K)		TOTAL VOL	REVISED VOL	APPROACH VOL
12-1 AM	4	-				
1		-				
2		-				
3		0				
4		-				
5		-				
6	50	2	✓		78	39
7	50	7	x	250 + 56 = 306	273	50
8	60	10	x	233 + 57 = 290	390	77
9	50	4			156	78
10	50	7			273	137
11	62	5			195	121
12 Noon	46	6			234	109
1 PM	46	6			234	108
2	50	8			312	156
3	40	6			234	94
4	40	5	✓	147 + 93 = 240	195	76
5	42	8	x	146 + 87 = 233	312	96
6	30	9			351	105
7	41	6			234	96
8	33	4			156	52
9	27	5			195	53
10	27	2			78	21
11	-	-			-	
		<u>100%</u>				

$$\frac{306}{.07} = 4371$$

$$\frac{290}{.1} = 2900$$

$$\frac{240}{.05} = 4800$$

$$\frac{233}{.08} = 3538$$

$$\bar{x} = 3902 \leftarrow \text{USE AS ADT}$$

ORVIS ROAD/MASS AVE

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

- The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or
- The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume						
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)	
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b 70% ^c
1.....	1.....	500	400	350	150	120 105
2 or more...	1.....	600	480	420	150	120 105
2 or more...	2 or more...	600	480	420	200	160 140
1.....	2 or more...	500	400	350	200	160 140

Condition B—Interruption of Continuous Traffic						
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)	
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b 70% ^c
1.....	1.....	750	600	525	75	60 53
2 or more...	1.....	900	720	630	75	60 53
2 or more...	2 or more...	900	720	630	100	80 70
1.....	2 or more...	750	600	525	100	80 70

^a Basic minimum hourly volume.

^b Used for combination of Conditions A and B after adequate trial of other remedial measures.

^c May be used when the major-street speed exceeds 70 km/h (40 mph) or in an isolated community with a population of less than 10,000.

Condition A
Warrant Met?

Yes No

Condition B
Warrant Met?

Yes No

Major Street Vehicles Per Hour

Minor Street Vehicles Per Hour

	Major Street	Minor Street	A	B
6	349	39		
7	885	50		
8	910	77	Y	Y
9	937	78		Y
10	872	137		
11	850	121		
NOON	900	109		Y
1	869	104		
2	898	156		Y
3	866	44		
4	949	76		Y
5	974	105		Y
6	949	98		Y
7	877	52		
8	885	53		

Condition B
OK WARRANT
is satisfied

Orvis Rd / MSU Ave

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.03 Warrant 2, Four Hour Vehicular Volume

Plot Value : **X** (Click and drag to appropriate chart)

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

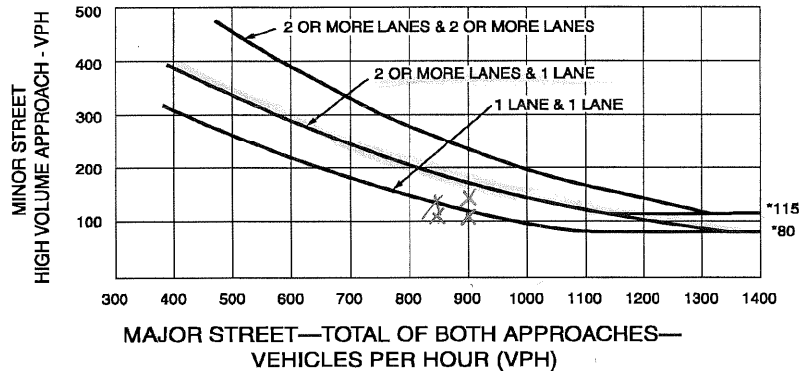
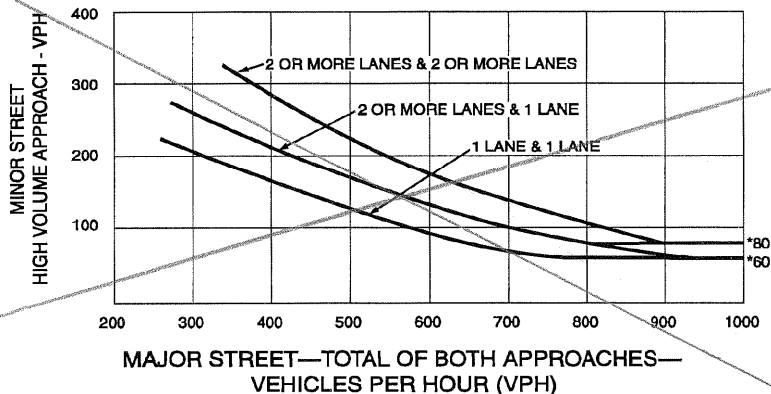


Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



Warrant Met?
Yes No

FST Signal Warrants Analysis - MUTCD 2000

4-Hour
WARRANT

NOT SATISFIED

Oasis Rd / Mass Ave

Section 4C.04 Warrant 3, Peak Hour

The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

- A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
 1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and
 2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
 3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.
- B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Plot Value : **X** (Click and drag to appropriate chart)

Figure 4C-3. Warrant 3, Peak Hour

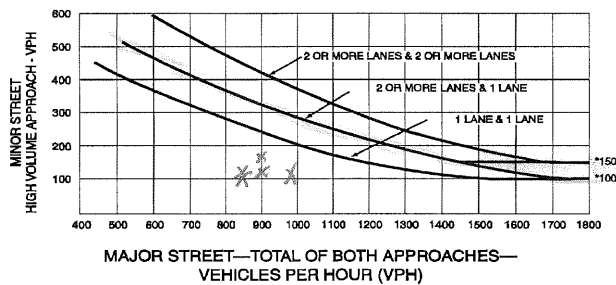
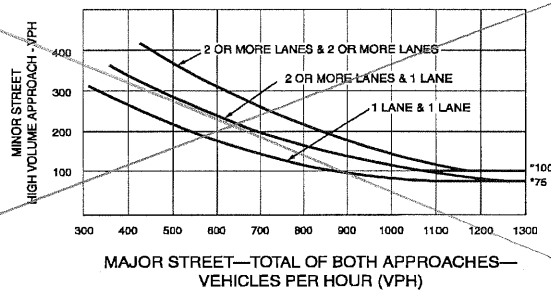


Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



Warrant Met?

Yes No

FST Signal Warrants Analysis - MUTCD 2000

~~Section 4C.05 Warrant 4, Pedestrian Volume~~

0
00 *Peak Hour Warrant*
NOT SATISFIED

MASS/TEEL/THOMAS/KE

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

- The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or
- The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume						
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)	
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b 70% ^c
1.....	1.....	500	400	350	150	120 105
2 or more...	1.....	600	480	420	150	120 105
2 or more...	2 or more...	600	480	420	200	160 140
1.....	2 or more....	500	400	350	200	160 140

Condition B—Interruption of Continuous Traffic						
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)	
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b 70% ^c
1.....	1.....	750	600	525	75	60 53
2 or more...	1.....	900	720	630	75	60 53
2 or more...	2 or more...	900	720	630	100	80 70
1.....	2 or more....	750	600	525	100	80 70

^a Basic minimum hourly volume.

^b Used for combination of Conditions A and B after adequate trial of other remedial measures.

^c May be used when the major-street speed exceeds 70 km/h (40 mph) or in an isolated community with a population of less than 10,000.

Condition A
Warrant Met?

Yes No

Condition B
Warrant Met?

Yes No

Major Street Vehicles Per Hour _____ Minor Street Vehicles Per Hour _____

7	731	31	37
8	692	46	51
9	918	17	34
10	816	31	21
11	829	21	24
12	821	26	24
1	833	26	24
2	914	25	22
3	929	27	25
4	1007	23	20
5	1106	25	24
6	1092	29	26

Min Vol NOT
MET!

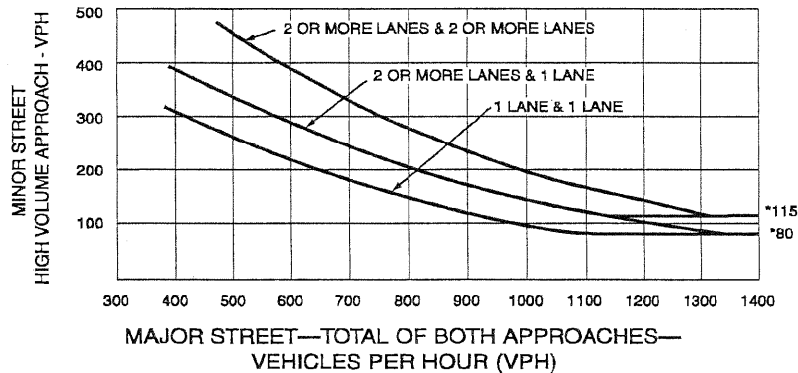
MASS/TEEL /THORALIKE

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.03 Warrant 2, Four Hour Vehicular Volume

Plot Value : **X** (Click and drag to appropriate chart)

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



PEAK VOL TEEL = 46

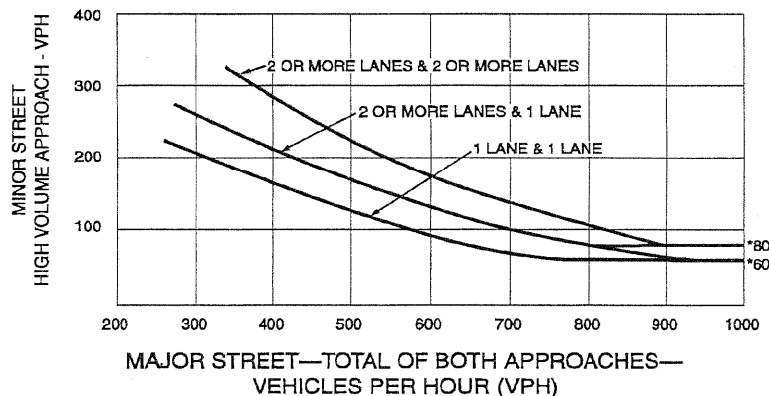
THOR = 51

MIN VOLUME

NOT MET

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



Warrant Met?
Yes No

FST Signal Warrants Analysis - MUTCD 2000

MASS / TEL / THOMAS / KIZ

Section 4C.04 Warrant 3. Peak Hour

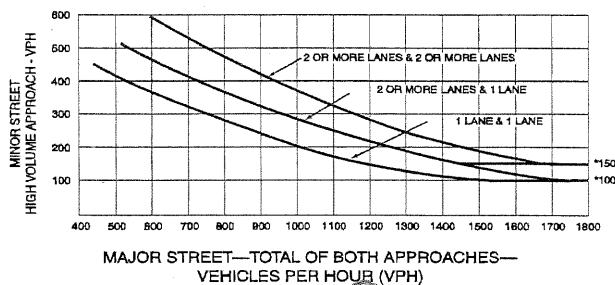
The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

- A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
 1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and
 2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
 3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.
- B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Plot Value : X (Click and drag to appropriate chart)

MIN VOL = 46 & 51

Figure 4C-3. Warrant 3, Peak Hour

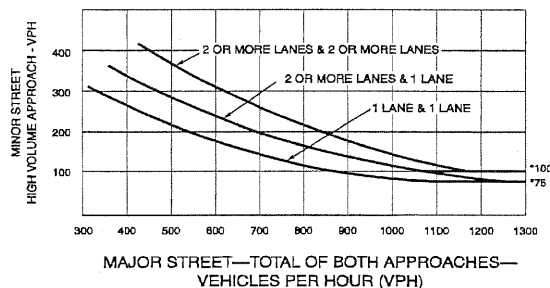


*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

00 NOT MET

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant Met?
Yes No

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.05 Warrant 4. Pedestrian Volume

FOSTER/LINWOOD/MASS AVE

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Standard:

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

- The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or
- The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume						
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)	
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b 70% ^c
1.....	1.....	500	400	350	150	120 105
2 or more	1.....	600	480	420	150	120 105
2 or more	2 or more	600	480	420	200	160 140
1.....	2 or more	500	400	350	200	160 140

Condition B—Interruption of Continuous Traffic						
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)			Vehicles per hour on higher-volume minor-street approach (one direction only)	
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b 70% ^c
1.....	1.....	750	600	525	75	60 53
2 or more	1.....	900	720	630	75	60 53
2 or more	2 or more	900	720	630	100	80 70
1.....	2 or more	750	600	525	100	80 70

^a Basic minimum hourly volume.

^b Used for combination of Conditions A and B after adequate trial of other remedial measures.

^c May be used when the major-street speed exceeds 70 km/h (40 mph) or in an isolated community with a population of less than 10,000.

Condition A
Warrant Met?

Yes No

Condition B
Warrant Met?

Yes No

Major Street Vehicles Per Hour

Minor Street Vehicles Per Hour

7	883	—	—	—
8	910	—	—	—
9	937	—	—	—
10	874	—	—	—
11	850	—	—	—
12	923	—	—	—
1	949	—	—	—
2	899	—	—	—
3	411	—	—	—

78

118

58

46

34

43

35

50

46

48

4	906	64
5	956	80
6	966	61
7	967	34
8	865	24

FOSTER/LINWOOD
MASS AVE

USING FOSTER DATA

CONDITION A
NO CONDITION MET

CONDITION B
3 CONDITIONS MET
NO WARRANT

2008 VOLUMES

949

116 MAX

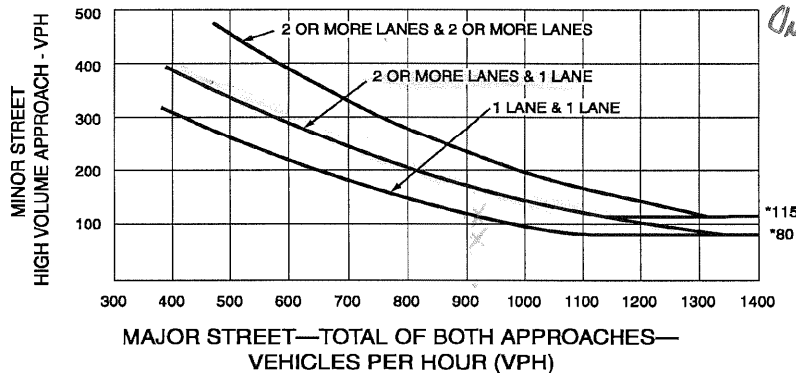
ROSTER / LINWOOD / MASS AVE

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.03 Warrant 2, Four Hour Vehicular Volume

Plot Value : **X** (Click and drag to appropriate chart)

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

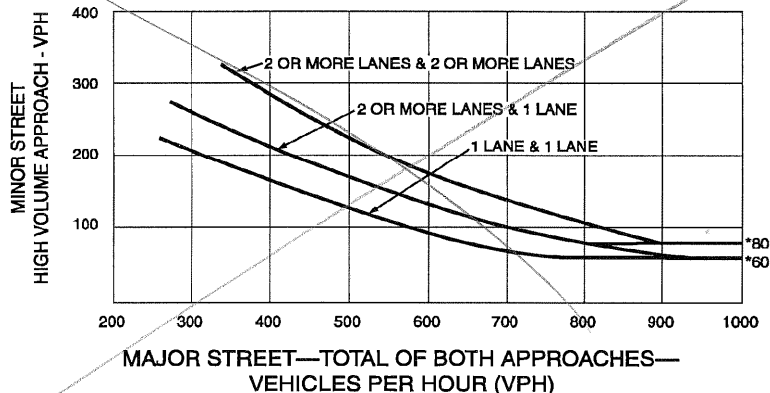


*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

ONLY 2 HOURS > 80 VPH
SO NOT MET !!

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant Met?

Yes No

FST Signal Warrants Analysis - MUTCD 2000

FASTER / LINWOOD / MASS AVE

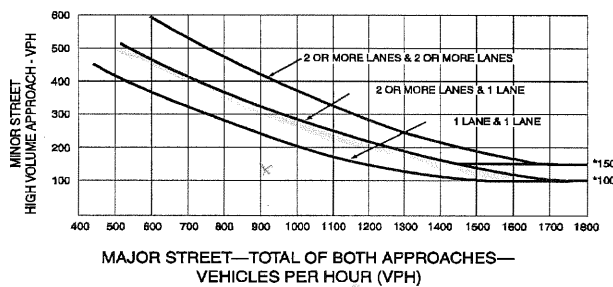
Section 4C.04 Warrant 3, Peak Hour

The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

- A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
 1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach; or 5 vehicle-hours for a two-lane approach, and
 2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
 3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.
- B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

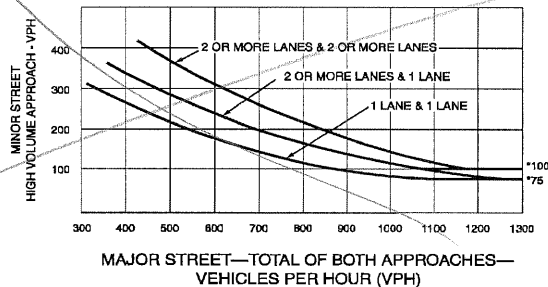
Plot Value : **X** (Click and drag to appropriate chart)

Figure 4C-3. Warrant 3, Peak Hour



8-9 = 118 + 0 > 118
do NOT MET!!

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



Warrant Met?
Yes No

FST Signal Warrants Analysis - MUTCD 2000

Section 4C.05 Warrant 4, Pedestrian Volume

Section 4C.05 Warrant 4. Pedestrian Volume

- Mass Ave/Treble/Linwood

Standard:

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that both of the following criteria are met:

- The pedestrian volume crossing the major street at an intersection or midblock location during an average day is 100 or more for each of any 4 hours or 190 or more during any 1 hour; and
- There are fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Where there is a divided street having a median of sufficient width for pedestrians to wait, the requirement applies separately to each direction of vehicular traffic.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic.

If a traffic control signal is justified by both this signal warrant and a traffic engineering study, the traffic control signal shall be equipped with pedestrian signal heads conforming to requirements set forth in Chapter 4E.

If pedestrian volumes are measured:

Pedestrian volume, average hour for four hours

Pedestrian Volume, peak hour

Fewer than 60 Acceptable crossing gaps per hour?

27
37
Yes No

PED VOLUMES
MASS AVE VOLUMES

MASS AVE FROM NORTH			MASS AVE FROM SOUTH			TOTAL
WB	EB		EB	WB		
7-8	10	4	8	15	3	
8-9	-	3	4	20	27	
9-5	1	6	9	8	25	
5-6	3	4	3	9	19	
						27

Warrant Met?

Yes No

Section 4C.06 Warrant 5. School Crossing

Standard:

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the children are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 students during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic.

If pedestrian volumes are measured:

Acceptable gaps less than number of minutes is less than # of students?

Pedestrian volume greater than 20?

Less restrictive measures tried?

Nearest signal less than 90 m or 300 feet?

Yes No
Yes No
Yes No
Yes No

Warrant Met?

Yes No

PED WARRANT

NOT MET

Section 4C.05

Warrant 4. Pedestrian Volume

MASS AVE/FOSTER/LINWOOD

Standard:

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that both of the following criteria are met:

- The pedestrian volume crossing the major street at an intersection or midblock location during an average day is 100 or more for each of any 4 hours or 190 or more during any 1 hour; and
- There are fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Where there is a divided street having a median of sufficient width for pedestrians to wait, the requirement applies separately to each direction of vehicular traffic.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic.

If a traffic control signal is justified by both this signal warrant and a traffic engineering study, the traffic control signal shall be equipped with pedestrian signal heads conforming to requirements set forth in Chapter 4E.

PEO VOLUMES

TIME	FROM NORTH		MASS AVE VOLUMES	FROM SOUTH		
	EB	WB		EB	WB	
7-8	8	23		4	10	4
8-9	4	22		4	7	3
9-5	11	10		2	10	3
5-6	11	14		3	14	4
						X = 3

If pedestrian volumes are measured:

Pedestrian volume, average hour for four hours

Pedestrian Volume, peak hour

Fewer than 60 Acceptable crossing gaps per hour?

39
45
Yes No

Warrant Met?

Yes No

Section 4C.06 Warrant 5. School Crossing

Standard:

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the children are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 students during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic.

If pedestrian volumes are measured:

Acceptable gaps less than number of minutes is less than # of students?

Pedestrian volume greater than 20?

Less restrictive measures tried?

Nearest signal less than 90 m or 300 feet?

Yes No
Yes No
Yes No
Yes No

Warrant Met?

Yes No

















00 PEO VOLUME WARRANT
NOT SATISFIED

CAPACITY ANALYSIS

2008 Existing

Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

Timings
Existing AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	873	28	17	655	0	19	0	19	52	17	12
Lane Group Flow (vph)	0	1155	0	0	776	0	0	72	0	0	104	0
Turn Type			Perm			Perm			Perm			Perm
Protected Phases		6			2			4			8	
Permitted Phases				2			4			8		
Detector Phases		6		2	2		4	4		8	8	
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	0.0	48.0	0.0	48.0	48.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	60.8%	0.0%	60.8%	60.8%	0.0%	15.2%	15.2%	0.0%	15.2%	15.2%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		Max		Max	Max		None	None		None	None	
v/c Ratio		0.48			0.37			0.36			0.63	
Control Delay		6.2			5.4			19.9			44.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.2			5.4			19.9			44.3	
Queue Length 50th (ft)		66			39			9			32	
Queue Length 95th (ft)		202			153			51			#108	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)												
Base Capacity (vph)		2385			2121			202			168	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.48			0.37			0.36			0.62	
Intersection Summary												
Area Type:	Other											
Cycle Length:	79											
Actuated Cycle Length:	75.8											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	24%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
 1: Mass. Ave. & Linwood St./Foster St.

Timings
 Existing AM Peak

















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Mass. Ave. & Linwood St./Foster St.

← ø2	↑ ø4	ø9
48 s	12 s	19 s
→ ø6	↓ ø8	
48 s	12 s	

















Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

HCM Signalized Intersection Capacity Analysis
Existing AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			1.00			0.98	
Frt		1.00			1.00			0.92			0.97	
Flt Protected		1.00			1.00			0.98			0.97	
Satd. Flow (prot)		3174			3224			1669			1652	
Flt Permitted		1.00			0.88			0.85			0.82	
Satd. Flow (perm)		3174			2834			1443			1401	
Volume (vph)	0	873	28	17	655	0	19	0	19	52	17	12
Peak-hour factor, PHF	0.92	0.78	0.78	0.53	0.88	0.92	0.68	0.92	0.43	0.81	0.85	0.60
Adj. Flow (vph)	0	1119	36	32	744	0	28	0	44	64	20	20
RTOR Reduction (vph)	0	2	0	0	0	0	0	40	0	0	11	0
Lane Group Flow (vph)	0	1153	0	0	776	0	0	32	0	0	93	0
Confl. Peds. (#/hr)	1		1	1		1	6		6	16		17
Confl. Bikes (#/hr)			27			10			1			8
Heavy Vehicles (%)	2%	5%	0%	0%	4%	2%	0%	2%	0%	2%	0%	17%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type				Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases				2			4			8		
Actuated Green, G (s)		56.5			56.5			7.6			7.6	
Effective Green, g (s)		56.5			56.5			7.6			7.6	
Actuated g/C Ratio		0.72			0.72			0.10			0.10	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2293			2048			140			136	
v/s Ratio Prot		c0.36										
v/s Ratio Perm					0.27			0.02			c0.07	
v/c Ratio		0.50			0.38			0.23			0.69	
Uniform Delay, d1		4.7			4.1			32.6			34.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			0.5			0.8			13.4	
Delay (s)		5.5			4.7			33.4			47.5	
Level of Service		A			A			C			D	
Approach Delay (s)		5.5			4.7			33.4			47.5	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM Average Control Delay			8.2				HCM Level of Service			A		
HCM Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			78.2				Sum of lost time (s)			14.1		
Intersection Capacity Utilization			46.4%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												















Mass. Ave. - Arlington
2: Mass. Ave. & Marion Rd./Bates Rd.

HCM Unsignalized Intersection Capacity Analysis
Existing AM Peak

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Sign Control		Free			Free			Stop			Stop			
Grade		0%			0%			0%			0%			
Volume (veh/h)	43	866	7	2	605	59	4	3	8	245	1	102		
Peak Hour Factor	0.67	0.80	0.35	0.25	0.87	0.70	0.50	0.38	0.67	0.86	0.25	0.85		
Hourly flow rate (vph)	64	1082	20	8	695	84	8	8	12	285	4	120		
Pedestrians		4			4						1			
Lane Width (ft)		12.0			12.0						12.0			
Walking Speed (ft/s)		4.0			4.0						4.0			
Percent Blockage		0			0						0			
Right turn flare (veh)														
Median type	None								None					
Median storage veh														
Upstream signal (ft)	452													
pX, platoon unblocked				0.87					0.87	0.87	0.87	0.87	0.87	
vC, conflicting volume	781			1102					1711	2018	555	1444	1985	395
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	781			966					1667	2020	336	1360	1983	395
tC, single (s)	4.1			4.1					7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)														
tF (s)	2.2			2.2					3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99					80	83	98	0	92	80
cM capacity (veh/h)	845			626					39	47	576	74	49	607
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1								
Volume Total	605	561	356	432	28	409								
Volume Left	64	0	8	0	8	285								
Volume Right	0	20	0	84	12	120								
cSH	845	1700	626	1700	71	99								
Volume to Capacity	0.08	0.33	0.01	0.25	0.39	4.14								
Queue Length 95th (ft)	6	0	1	0	38	Err								
Control Delay (s)	2.0	0.0	0.4	0.0	85.9	Err								
Lane LOS	A		A		F	F								
Approach Delay (s)	1.0		0.2		85.9	Err								
Approach LOS					F	F								
Intersection Summary														
Average Delay	1711.4													
Intersection Capacity Utilization	80.7%		ICU Level of Service				D							
Analysis Period (min)	15													


Mass. Ave. - Arlington
3: Mass. Ave. & Orvis Rd./Grafton St.

HCM Unsignalized Intersection Capacity Analysis
Existing AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	18	975	187	53	591	33	32	5	23	0	0	0
Peak Hour Factor	0.56	0.85	0.74	0.95	0.89	0.83	0.67	0.42	0.96	0.92	0.92	0.92
Hourly flow rate (vph)	32	1147	253	56	664	40	48	12	24	0	0	0
Pedestrians		2			3			12			12	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1192			647							
pX, platoon unblocked	0.99						0.99	0.99		0.99	0.99	0.99
vC, conflicting volume	716			1412			1795	2177	715	1478	2284	366
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	709			1412			1794	2178	715	1475	2285	357
tC, single (s)	4.1			4.1			7.5	6.9	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.2	3.3	3.5	4.0	3.3
p0 queue free %	96			88			0	61	93	100	100	100
cM capacity (veh/h)	895			474			45	30	364	50	33	635
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	606	826	388	372	84							
Volume Left	32	0	56	0	48							
Volume Right	0	253	0	40	24							
cSH	895	1700	474	1700	55							
Volume to Capacity	0.04	0.49	0.12	0.22	1.52							
Queue Length 95th (ft)	3	0	10	0	192							
Control Delay (s)	1.0	0.0	3.7	0.0	431.5							
Lane LOS	A		A		F							
Approach Delay (s)	0.4		1.9		431.5							
Approach LOS					F							
Intersection Summary												
Average Delay			16.7									
Intersection Capacity Utilization			73.0%		ICU Level of Service		D					
Analysis Period (min)			15									

Mass. Ave. - Arlington
4: Mass. Ave. & Lake St./Winter St.

Timings
Existing AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗		↕↕			↕				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	10	10	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		75	0		0	0		75	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50				
Trailing Detector (ft)	0	0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1509			808			774	
Travel Time (s)		14.7			34.3			18.4			17.6	
Volume (vph)	29	788	274	168	474	33	170	74	233	0	0	0
Lane Group Flow (vph)	0	967	330	0	754	0	0	659	0	0	0	0
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Detector Phases	6	6	6	5	2		4	4				
Minimum Initial (s)	6.0	6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)	20.0	20.0	20.0	4.0	20.0		20.0	20.0				
Total Split (s)	33.0	33.0	33.0	4.0	37.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0
Total Split (%)	41.3%	41.3%	41.3%	5.0%	46.3%	0.0%	26.3%	26.3%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0	3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	Max	Max		Max	Max				
v/c Ratio		0.92	0.74		2.32dl			1.73				
Control Delay		40.5	34.2		95.7			362.4				
Queue Delay		0.0	0.0		0.0			0.0				
Total Delay		40.5	34.2		95.7			362.4				
Queue Length 50th (ft)		238	141		~231			~494				
Queue Length 95th (ft)		#328	214		#340			#505				
Internal Link Dist (ft)		567			1429			728			694	
Turn Bay Length (ft)			75									
Base Capacity (vph)		1046	447		677			382				
Starvation Cap Reductn		0	0		0			0				
Spillback Cap Reductn		0	0		0			0				
Storage Cap Reductn		0	0		0			0				
Reduced v/c Ratio		0.92	0.74		1.11			1.73				

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 150

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	13.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	28%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.






Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

















dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 4: Mass. Ave. & Lake St./Winter St.

 02	 04	 09
37 s	21 s	22 s
  06 4 33 s		





















Mass. Ave. - Arlington
4: Mass. Ave. & Lake St./Winter St.

HCM Signalized Intersection Capacity Analysis
Existing AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	10	10	12	12	12
Total Lost time (s)		4.0	4.0		4.0			4.0				
Lane Util. Factor		0.95	1.00		0.95			1.00				
Frpb, ped/bikes		1.00	0.93		1.00			0.98				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		0.99			0.93				
Flt Protected		1.00	1.00		0.99			0.98				
Satd. Flow (prot)		3218	1233		3092			1796				
Flt Permitted		0.89	1.00		0.52			0.98				
Satd. Flow (perm)		2885	1233		1639			1796				
Volume (vph)	29	788	274	168	474	33	170	74	233	0	0	0
Peak-hour factor, PHF	0.73	0.85	0.83	0.93	0.91	0.64	0.75	0.71	0.71	0.92	0.92	0.92
Adj. Flow (vph)	40	927	330	181	521	52	227	104	328	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	967	330	0	754	0	0	659	0	0	0	0
Confl. Peds. (#/hr)	14		14	14		13	15		14	24		24
Confl. Bikes (#/hr)			33			20			1			
Heavy Vehicles (%)	0%	6%	3%	3%	6%	3%	4%	0%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		2	2		2	2						
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Actuated Green, G (s)		29.0	29.0		33.0			17.0				
Effective Green, g (s)		29.0	29.0		33.0			17.0				
Actuated g/C Ratio		0.36	0.36		0.41			0.21				
Clearance Time (s)		4.0	4.0		4.0			4.0				
Lane Grp Cap (vph)		1046	447		676			382				
v/s Ratio Prot												
v/s Ratio Perm		0.34	0.27		c0.46			0.37				
v/c Ratio		0.92	0.74		2.32dl			1.73				
Uniform Delay, d1		24.4	22.2		23.5			31.5				
Progression Factor		1.00	1.00		1.00			1.00				
Incremental Delay, d2		14.7	10.4		70.8			337.2				
Delay (s)		39.2	32.6		94.3			368.7				
Level of Service		D	C		F			F				
Approach Delay (s)		37.5			94.3			368.7			0.0	
Approach LOS		D			F			F			A	
Intersection Summary												
HCM Average Control Delay			133.8			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.32									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			82.9%			ICU Level of Service			E			
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

Timings
Existing AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	8	912	0	0	630	4	27	2	23	6	0	21
Lane Group Flow (vph)	0	1089	0	0	657	0	0	80	0	0	44	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	20.0	20.0			20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.0	24.0			24.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	0.0	50.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	66.7%	66.7%	0.0%	0.0%	66.7%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.46			0.26			0.52			0.28	
Control Delay		4.7			3.5			31.8			20.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.7			3.5			31.8			20.0	
Queue Length 50th (ft)		50			24			17			4	
Queue Length 95th (ft)		177			97			6			35	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2380			2513			155			156	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.46			0.26			0.52			0.28	
Intersection Summary												
Area Type:	Other											
Cycle Length:	75											
Actuated Cycle Length:	75											
Natural Cycle:	55											
Control Type:	Semi Act-Uncoord											

















Splits and Phases: 5: Mass. Ave. & Thorndike St./Teel St.



Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	15.0
Total Split (s)	15.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	





















Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

HCM Signalized Intersection Capacity Analysis
Existing AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.95	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		1.00			1.00			0.95			0.90	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		3218			3210			1676			1586	
Flt Permitted		0.94			1.00			0.87			0.91	
Satd. Flow (perm)		3040			3210			1499			1458	
Volume (vph)	8	912	0	0	630	4	27	2	23	6	0	21
Peak-hour factor, PHF	0.50	0.85	0.92	0.92	0.97	0.50	0.68	0.25	0.72	0.50	0.92	0.66
Adj. Flow (vph)	16	1073	0	0	649	8	40	8	32	12	0	32
RTOR Reduction (vph)	0	0	0	0	1	0	0	30	0	0	30	0
Lane Group Flow (vph)	0	1089	0	0	656	0	0	50	0	0	14	0
Confl. Peds. (#/hr)	3		3				5		5	15		14
Confl. Bikes (#/hr)			51			9			3			1
Heavy Vehicles (%)	0%	4%	2%	2%	4%	25%	4%	0%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		58.2			58.2			5.7			5.7	
Effective Green, g (s)		58.2			58.2			5.7			5.7	
Actuated g/C Ratio		0.75			0.75			0.07			0.07	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2289			2417			111			108	
v/s Ratio Prot					0.20							
v/s Ratio Perm		c0.36						c0.03			0.01	
v/c Ratio		0.48			0.27			0.45			0.13	
Uniform Delay, d1		3.7			3.0			34.3			33.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.3			2.9			0.6	
Delay (s)		4.4			3.2			37.2			34.0	
Level of Service		A			A			D			C	
Approach Delay (s)		4.4			3.2			37.2			34.0	
Approach LOS		A			A			D			C	
Intersection Summary												
HCM Average Control Delay		6.1			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		77.3			Sum of lost time (s)			13.4				
Intersection Capacity Utilization		45.6%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Existing AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	929			689			656			574		
Travel Time (s)	21.1			15.7			14.9			13.0		
Volume (vph)	116	697	145	257	469	43	75	461	272	104	1048	29
Lane Group Flow (vph)	168	908	0	279	595	0	88	851	0	120	1192	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	15.0	38.0	0.0	18.0	41.0	0.0	17.0	41.0	0.0	17.0	41.0	0.0
Total Split (%)	13.2%	33.3%	0.0%	15.8%	36.0%	0.0%	14.9%	36.0%	0.0%	14.9%	36.0%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
v/c Ratio	0.97	0.93		1.31	0.54		0.49	0.79		0.60	1.03	
Control Delay	111.9	54.9		209.0	33.7		57.5	41.3		61.4	73.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	111.9	54.9		209.0	33.7		57.5	41.3		61.4	73.6	
Queue Length 50th (ft)	125	339		~264	186		62	297		85	~494	
Queue Length 95th (ft)	#171	#464		#433	233		109	329		142	#630	
Internal Link Dist (ft)	849			609			576			494		
Turn Bay Length (ft)	75											
Base Capacity (vph)	174	981		213	1110		179	1077		200	1154	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.97	0.93		1.31	0.54		0.49	0.79		0.60	1.03	
Intersection Summary												
Area Type:	Other											
Cycle Length:	114											
Actuated Cycle Length:	114											
Offset:	24 (21%), Referenced to phase 2:WBT and 6:EBT, Start of Green											
Natural Cycle:	100											

Mass. Ave. - Arlington
 6: Mass. Ave. & Alewife Brook Pkwy.

Timings
 Existing AM Peak

Control Type: Pretimed








~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.

 ø1	 ø2	 ø3	 ø4
15 s	41 s	17 s	41 s
 ø5	 ø6	 ø7	 ø8
18 s	38 s	17 s	41 s

















Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Existing AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3288		1736	3420		1570	3318		1752	3555	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	3288		1736	3420		1570	3318		1752	3555	
Volume (vph)	116	697	145	257	469	43	75	461	272	104	1048	29
Peak-hour factor, PHF	0.69	0.93	0.91	0.92	0.87	0.77	0.85	0.82	0.94	0.87	0.91	0.73
Adj. Flow (vph)	168	749	159	279	539	56	88	562	289	120	1152	40
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	168	908	0	279	595	0	88	851	0	120	1192	0
Confl. Peds. (#/hr)	27		28	4		4	1		1	3		3
Confl. Bikes (#/hr)			47			10			3			1
Heavy Vehicles (%)	0%	5%	5%	4%	4%	2%	15%	1%	6%	3%	1%	0%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	11.0	34.0		14.0	37.0		13.0	37.0		13.0	37.0	
Effective Green, g (s)	11.0	34.0		14.0	37.0		13.0	37.0		13.0	37.0	
Actuated g/C Ratio	0.10	0.30		0.12	0.32		0.11	0.32		0.11	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	174	981		213	1110		179	1077		200	1154	
v/s Ratio Prot	0.09	c0.28		c0.16	c0.17		0.06	0.26		c0.07	c0.34	
v/s Ratio Perm												
v/c Ratio	0.97	0.93		1.31	0.54		0.49	0.79		0.60	1.03	
Uniform Delay, d1	51.3	38.8		50.0	31.5		47.4	35.0		48.0	38.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	59.7	15.6		168.9	1.9		9.3	5.9		12.6	35.3	
Delay (s)	111.0	54.4		218.9	33.3		56.7	40.9		60.6	73.8	
Level of Service	F	D		F	C		E	D		E	E	
Approach Delay (s)		63.2			92.6			42.4			72.6	
Approach LOS		E			F			D			E	
Intersection Summary												
HCM Average Control Delay		67.6					HCM Level of Service		E			
HCM Volume to Capacity ratio		1.00										
Actuated Cycle Length (s)		114.0					Sum of lost time (s)		20.0			
Intersection Capacity Utilization		86.0%					ICU Level of Service		E			
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

Timings
Existing PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	786	29	12	779	0	22	0	17	41	9	19
Lane Group Flow (vph)	0	909	0	0	895	0	0	60	0	0	120	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			8	
Permitted Phases				2			4			8		
Detector Phases		6		2	2		4	4		8	8	
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	0.0	48.0	0.0	48.0	48.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	60.8%	0.0%	60.8%	60.8%	0.0%	15.2%	15.2%	0.0%	15.2%	15.2%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		Max		Max	Max		None	None		None	None	
v/c Ratio		0.39			0.41			0.35			0.64	
Control Delay		5.5			5.8			23.8			40.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.5			5.8			23.8			40.0	
Queue Length 50th (ft)		45			46			10			32	
Queue Length 95th (ft)		180			181			50			54	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)												
Base Capacity (vph)		2344			2192			176			193	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.39			0.41			0.34			0.62	
Intersection Summary												
Area Type:	Other											
Cycle Length:	79											
Actuated Cycle Length:	73.4											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											

Mass. Ave. - Arlington
 1: Mass. Ave. & Linwood St./Foster St.

Timings
 Existing PM Peak

















Splits and Phases: 1: Mass. Ave. & Linwood St./Foster St.

← ø2	↑ ø4	ø9
48 s	12 s	19 s
→ ø6	↓ ø8	
48 s	12 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	24%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

















Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

HCM Signalized Intersection Capacity Analysis
Existing PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.98	
Frt		0.99			1.00			0.94			0.95	
Flt Protected		1.00			1.00			0.97			0.97	
Satd. Flow (prot)		3227			3255			1695			1688	
Flt Permitted		1.00			0.93			0.78			0.86	
Satd. Flow (perm)		3227			3025			1351			1489	
Volume (vph)	0	786	29	12	779	0	22	0	17	41	9	19
Peak-hour factor, PHF	0.92	0.90	0.81	0.60	0.89	0.92	0.69	0.92	0.61	0.64	0.56	0.48
Adj. Flow (vph)	0	873	36	20	875	0	32	0	28	64	16	40
RTOR Reduction (vph)	0	2	0	0	0	0	0	25	0	0	22	0
Lane Group Flow (vph)	0	907	0	0	895	0	0	35	0	0	98	0
Confl. Peds. (#/hr)	2		1	5		5	7		7	14		14
Confl. Bikes (#/hr)			8			17			2			1
Heavy Vehicles (%)	2%	3%	3%	0%	3%	2%	0%	2%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type		Perm				Perm				Perm		
Protected Phases		6			2			4			8	
Permitted Phases			2				4			8		
Actuated Green, G (s)		53.3			53.3			8.2			8.2	
Effective Green, g (s)		53.3			53.3			8.2			8.2	
Actuated g/C Ratio		0.71			0.71			0.11			0.11	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2278			2136			147			162	
v/s Ratio Prot		0.28										
v/s Ratio Perm					c0.30			0.03			c0.07	
v/c Ratio		0.40			0.42			0.24			0.60	
Uniform Delay, d1		4.5			4.6			30.8			32.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.6			0.8			6.2	
Delay (s)		5.1			5.2			31.6			38.3	
Level of Service		A			A			C			D	
Approach Delay (s)		5.1			5.2			31.6			38.3	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM Average Control Delay		8.0			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.44										
Actuated Cycle Length (s)		75.5			Sum of lost time (s)			14.0				
Intersection Capacity Utilization		45.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												
















Mass. Ave. - Arlington
2: Mass. Ave. & Marion Rd./Bates Rd.

HCM Unsignalized Intersection Capacity Analysis
Existing PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	48	749	6	7	709	146	6	8	12	112	4	105
Peak Hour Factor	0.71	0.88	0.38	0.58	0.93	0.96	0.50	0.67	0.75	0.85	0.33	0.88
Hourly flow rate (vph)	68	851	16	12	762	152	12	12	16	132	12	119
Pedestrians								10			10	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		452										
pX, platoon unblocked				0.92			0.92	0.92	0.92	0.92	0.92	
vC, conflicting volume	924			877			1535	1953	443	1455	1885	467
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	924			776			1493	1949	304	1406	1874	467
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	7.0	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.2	3.3
p0 queue free %	91			98			73	77	97	0	73	78
cM capacity (veh/h)	741			773			44	53	635	67	44	543
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	493	441	393	533	40	263						
Volume Left	68	0	12	0	12	132						
Volume Right	0	16	0	152	16	119						
cSH	741	1700	773	1700	77	107						
Volume to Capacity	0.09	0.26	0.02	0.31	0.52	2.45						
Queue Length 95th (ft)	8	0	1	0	55	591						
Control Delay (s)	2.5	0.0	0.5	0.0	94.9	744.4						
Lane LOS	A		A		F	F						
Approach Delay (s)	1.3		0.2		94.9	744.4						
Approach LOS					F	F						
Intersection Summary												
Average Delay			92.9									
Intersection Capacity Utilization			76.4%		ICU Level of Service		D					
Analysis Period (min)			15									


Mass. Ave. - Arlington
3: Mass. Ave. & Orvis Rd./Grafton St.

HCM Unsignalized Intersection Capacity Analysis
Existing PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	16	712	157	39	837	32	59	11	16	0	0	0
Peak Hour Factor	0.67	0.86	0.96	0.70	0.96	0.73	0.87	0.60	0.80	0.92	0.92	0.92
Hourly flow rate (vph)	24	828	164	56	872	44	68	18	20	0	0	0
Pedestrians		1			1			13			13	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1192			647							
pX, platoon unblocked	0.89						0.89	0.89		0.89	0.89	0.89
vC, conflicting volume	929			1004			1519	2011	510	1510	2070	472
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	791			1004			1457	2012	510	1447	2080	275
tC, single (s)	4.1			4.2			7.5	6.7	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	97			92			6	57	96	100	100	100
cM capacity (veh/h)	743			672			72	42	508	47	41	639
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	438	577	492	480	106							
Volume Left	24	0	56	0	68							
Volume Right	0	164	0	44	20							
cSH	743	1700	672	1700	75							
Volume to Capacity	0.03	0.34	0.08	0.28	1.42							
Queue Length 95th (ft)	2	0	7	0	214							
Control Delay (s)	0.9	0.0	2.3	0.0	344.9							
Lane LOS	A		A		F							
Approach Delay (s)	0.4		1.2		344.9							
Approach LOS					F							
Intersection Summary												
Average Delay			18.2									
Intersection Capacity Utilization			71.2%		ICU Level of Service			C				
Analysis Period (min)			15									

Mass. Ave. - Arlington
4: Mass. Ave. & Lake St./Winter St.

Timings
Existing PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕	↗		↕↕			↕				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	10	10	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		75	0		0	0		75	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50				
Trailing Detector (ft)	0	0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1509			808			774	
Travel Time (s)		14.7			34.3			18.4			17.6	
Volume (vph)	10	592	105	174	620	2	224	73	207	0	0	0
Lane Group Flow (vph)	0	721	124	0	868	0	0	595	0	0	0	0
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Detector Phases	6	6	6	5	2		4	4				
Minimum Initial (s)	6.0	6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)	20.0	20.0	20.0	4.0	20.0		20.0	20.0				
Total Split (s)	33.0	33.0	33.0	4.0	37.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0
Total Split (%)	41.3%	41.3%	41.3%	5.0%	46.3%	0.0%	26.3%	26.3%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0	3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	Max	Max		Max	Max				
v/c Ratio		0.65	0.26		1.40dl			1.53				
Control Delay		24.5	19.9		111.3			276.4				
Queue Delay		0.0	0.0		0.0			0.0				
Total Delay		24.5	19.9		111.3			276.4				
Queue Length 50th (ft)		154	43		~274			~423				
Queue Length 95th (ft)		194	78		#388			#516				
Internal Link Dist (ft)		567			1429			728			694	
Turn Bay Length (ft)			75									
Base Capacity (vph)		1116	471		749			390				
Starvation Cap Reductn		0	0		0			0				
Spillback Cap Reductn		0	0		0			0				
Storage Cap Reductn		0	0		0			0				
Reduced v/c Ratio		0.65	0.26		1.16			1.53				

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 140

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	13.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	28%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
 4: Mass. Ave. & Lake St./Winter St.

Timings
 Existing PM Peak

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 4: Mass. Ave. & Lake St./Winter St.

← ø2	↑ ø4	ø9
37 s	21 s	22 s
↙ ↘ ø6		
4 33 s		





















Mass. Ave. - Arlington
4: Mass. Ave. & Lake St./Winter St.

HCM Signalized Intersection Capacity Analysis
Existing PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	10	10	12	12	12
Total Lost time (s)		4.0	4.0		4.0			4.0				
Lane Util. Factor		0.95	1.00		0.95			1.00				
Frpb, ped/bikes		1.00	0.96		1.00			0.98				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		1.00			0.94				
Flt Protected		1.00	1.00		0.99			0.98				
Satd. Flow (prot)		3310	1298		3226			1835				
Flt Permitted		0.93	1.00		0.56			0.98				
Satd. Flow (perm)		3079	1298		1816			1835				
Volume (vph)	10	592	105	174	620	2	224	73	207	0	0	0
Peak-hour factor, PHF	0.63	0.84	0.85	0.84	0.95	0.25	0.97	0.79	0.76	0.92	0.92	0.92
Adj. Flow (vph)	16	705	124	207	653	8	231	92	272	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	721	124	0	868	0	0	595	0	0	0	0
Confl. Peds. (#/hr)	10		10	6		6	16		17	15		15
Confl. Bikes (#/hr)			8			19						
Heavy Vehicles (%)	0%	3%	1%	1%	3%	0%	0%	0%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		2	2		0	0						
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Actuated Green, G (s)		29.0	29.0		33.0			17.0				
Effective Green, g (s)		29.0	29.0		33.0			17.0				
Actuated g/C Ratio		0.36	0.36		0.41			0.21				
Clearance Time (s)		4.0	4.0		4.0			4.0				
Lane Grp Cap (vph)		1116	471		749			390				
v/s Ratio Prot												
v/s Ratio Perm		0.23	0.10		c0.48			0.32				
v/c Ratio		0.65	0.26		1.40dl			1.53				
Uniform Delay, d1		21.2	18.0		23.5			31.5				
Progression Factor		1.00	1.00		1.00			1.00				
Incremental Delay, d2		2.9	1.4		86.1			249.3				
Delay (s)		24.1	19.3		109.6			280.8				
Level of Service		C	B		F			F				
Approach Delay (s)		23.4			109.6			280.8			0.0	
Approach LOS		C			F			F			A	
Intersection Summary												
HCM Average Control Delay			122.2			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.28									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			81.2%			ICU Level of Service			D			
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

Timings
Existing PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	12	651	0	0	844	8	30	3	19	0	0	12
Lane Group Flow (vph)	0	731	0	0	920	0	0	68	0	0	24	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	20.0	20.0			20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.0	24.0			24.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	0.0	50.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	66.7%	66.7%	0.0%	0.0%	66.7%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.29			0.34			0.50			0.05	
Control Delay		3.4			3.6			33.5			0.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.4			3.6			33.5			0.2	
Queue Length 50th (ft)		28			37			15			0	
Queue Length 95th (ft)		114			145			46			0	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2511			2722			137			447	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			0.34			0.50			0.05	
Intersection Summary												
Area Type:	Other											
Cycle Length:	75											
Actuated Cycle Length:	76											
Natural Cycle:	50											
Control Type:	Semi Act-Uncoord											





















Splits and Phases: 5: Mass. Ave. & Thorndike St./Teel St.

← ø2		↑ ø4	ø9
50 s		10 s	15 s
→ ø6		↓ ø8	
50 s		10 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	15.0
Total Split (s)	15.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	





















Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

HCM Signalized Intersection Capacity Analysis
Existing PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.95	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		1.00			1.00			0.95			0.86	
Flt Protected		1.00			1.00			0.97			1.00	
Satd. Flow (prot)		3248			3281			1686			1561	
Flt Permitted		0.93			1.00			0.81			1.00	
Satd. Flow (perm)		3029			3281			1398			1561	
Volume (vph)	12	651	0	0	844	8	30	3	19	0	0	12
Peak-hour factor, PHF	0.75	0.91	0.92	0.92	0.93	0.67	0.75	0.75	0.79	0.92	0.92	0.50
Adj. Flow (vph)	16	715	0	0	908	12	40	4	24	0	0	24
RTOR Reduction (vph)	0	0	0	0	1	0	0	23	0	0	23	0
Lane Group Flow (vph)	0	731	0	0	919	0	0	45	0	0	1	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Confl. Bikes (#/hr)			6			32			1			
Heavy Vehicles (%)	0%	3%	2%	2%	2%	0%	0%	0%	0%	2%	2%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		61.6			61.6			4.3			4.3	
Effective Green, g (s)		61.6			61.6			4.3			4.3	
Actuated g/C Ratio		0.78			0.78			0.05			0.05	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2353			2549			76			85	
v/s Ratio Prot					c0.28						0.00	
v/s Ratio Perm		0.24						c0.03				
v/c Ratio		0.31			0.36			0.60			0.02	
Uniform Delay, d1		2.6			2.7			36.7			35.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.4			11.9			0.1	
Delay (s)		2.9			3.1			48.6			35.6	
Level of Service		A			A			D			D	
Approach Delay (s)		2.9			3.1			48.6			35.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay		5.3			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.38										
Actuated Cycle Length (s)		79.3			Sum of lost time (s)			13.4				
Intersection Capacity Utilization		43.8%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Existing PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	929			689			656			574		
Travel Time (s)	21.1			15.7			14.9			13.0		
Volume (vph)	107	483	89	284	526	80	157	752	262	87	615	103
Lane Group Flow (vph)	111	641	0	305	670	0	180	1129	0	116	834	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	20.0		10.0	20.0	
Total Split (s)	14.0	31.0	0.0	20.0	37.0	0.0	17.0	46.0	0.0	17.0	46.0	0.0
Total Split (%)	12.3%	27.2%	0.0%	17.5%	32.5%	0.0%	14.9%	40.4%	0.0%	14.9%	40.4%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
v/c Ratio	0.70	0.81		1.24	0.68		0.93	0.90		0.57	0.65	
Control Delay	74.4	50.1		179.0	40.0		99.0	44.9		59.6	32.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	74.4	50.1		179.0	40.0		99.0	44.9		59.6	32.8	
Queue Length 50th (ft)	81	234		~278	228		133	407		82	264	
Queue Length 95th (ft)	#165	304		#453	295		#255	#537		118	318	
Internal Link Dist (ft)	849			609			576			494		
Turn Bay Length (ft)	75											
Base Capacity (vph)	158	795		246	985		194	1256		204	1283	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.70	0.81		1.24	0.68		0.93	0.90		0.57	0.65	

Intersection Summary

Area Type: Other

Cycle Length: 114

Actuated Cycle Length: 114

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 90

Mass. Ave. - Arlington
 6: Mass. Ave. & Alewife Brook Pkwy.

Timings
 Existing PM Peak

Control Type: Pretimed

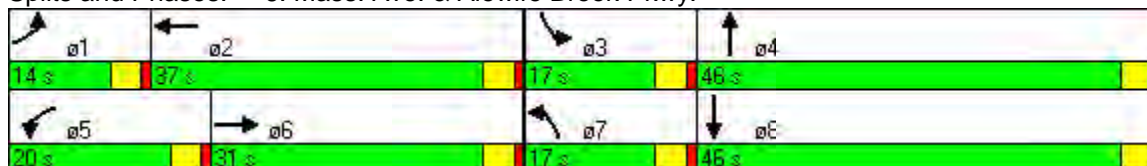
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

















Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.



Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Existing PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3357		1752	3402		1703	3407		1787	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	3357		1752	3402		1703	3407		1787	3484	
Volume (vph)	107	483	89	284	526	80	157	752	262	87	615	103
Peak-hour factor, PHF	0.96	0.94	0.70	0.93	0.93	0.77	0.87	0.92	0.84	0.75	0.87	0.81
Adj. Flow (vph)	111	514	127	305	566	104	180	817	312	116	707	127
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	111	641	0	305	670	0	180	1129	0	116	834	0
Confl. Peds. (#/hr)	14		13	13		12	5		4	1		2
Confl. Bikes (#/hr)			8			30						
Heavy Vehicles (%)	0%	3%	5%	3%	3%	1%	6%	1%	1%	1%	1%	1%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	10.0	27.0		16.0	33.0		13.0	42.0		13.0	42.0	
Effective Green, g (s)	10.0	27.0		16.0	33.0		13.0	42.0		13.0	42.0	
Actuated g/C Ratio	0.09	0.24		0.14	0.29		0.11	0.37		0.11	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	158	795		246	985		194	1255		204	1284	
v/s Ratio Prot	0.06	c0.19		c0.17	0.20		c0.11	c0.33		0.06	0.24	
v/s Ratio Perm												
v/c Ratio	0.70	0.81		1.24	0.68		0.93	0.90		0.57	0.65	
Uniform Delay, d1	50.6	41.0		49.0	35.8		50.0	34.0		47.8	29.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	23.0	8.6		137.6	3.8		48.1	10.4		11.0	2.6	
Delay (s)	73.5	49.6		186.6	39.6		98.1	44.4		58.9	32.4	
Level of Service	E	D		F	D		F	D		E	C	
Approach Delay (s)		53.1			85.6			51.8			35.7	
Approach LOS		D			F			D			D	
Intersection Summary												
HCM Average Control Delay			56.5			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			114.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			79.7%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	775	15	17	717	0	28	0	14	47	5	25
Lane Group Flow (vph)	0	895	0	0	815	0	0	60	0	0	128	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			8	
Permitted Phases				2			4			8		
Detector Phases		6		2	2		4	4		8	8	
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	0.0	48.0	0.0	48.0	48.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	60.8%	0.0%	60.8%	60.8%	0.0%	15.2%	15.2%	0.0%	15.2%	15.2%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		Max		Max	Max		None	None		None	None	
v/c Ratio		0.38			0.38			0.35			0.69	
Control Delay		5.4			5.7			25.5			43.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.4			5.7			25.5			43.7	
Queue Length 50th (ft)		44			41			12			35	
Queue Length 95th (ft)		172			165			53			66	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)												
Base Capacity (vph)		2375			2117			174			190	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.38			0.38			0.34			0.67	
Intersection Summary												
Area Type:	Other											
Cycle Length:	79											
Actuated Cycle Length:	70.3											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											

Mass. Ave. - Arlington
 1: Mass. Ave. & Linwood St./Foster St.

Timings
 Existing (2008) Sat. Midday Peak

















Splits and Phases: 1: Mass. Ave. & Linwood St./Foster St.

















← ø2	↑ ø4	ø9
48 s	12 s	19 s
→ ø6	↓ ø8	
48 s	12 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	8.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	24%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

HCM Signalized Intersection Capacity Analysis
Existing (2008) Sat. Midday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.97	
Flpb, ped/bikes		1.00			1.00			0.99			0.96	
Frt		1.00			1.00			0.95			0.95	
Flt Protected		1.00			1.00			0.97			0.97	
Satd. Flow (prot)		3299			3310			1695			1630	
Flt Permitted		1.00			0.89			0.76			0.85	
Satd. Flow (perm)		3299			2957			1325			1421	
Volume (vph)	0	775	15	17	717	0	28	0	14	47	5	25
Peak-hour factor, PHF	0.92	0.89	0.63	0.47	0.92	0.92	0.78	0.92	0.58	0.62	0.63	0.57
Adj. Flow (vph)	0	871	24	36	779	0	36	0	24	76	8	44
RTOR Reduction (vph)	0	2	0	0	0	0	0	21	0	0	24	0
Lane Group Flow (vph)	0	893	0	0	815	0	0	39	0	0	104	0
Confl. Peds. (#/hr)	20		19	20		20	12		12	30		29
Confl. Bikes (#/hr)			26			24						6
Heavy Vehicles (%)	2%	2%	0%	0%	2%	2%	0%	2%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type		Perm				Perm				Perm		
Protected Phases		6			2			4			8	
Permitted Phases			2				4			8		
Actuated Green, G (s)		50.6			50.6			8.1			8.1	
Effective Green, g (s)		50.6			50.6			8.1			8.1	
Actuated g/C Ratio		0.70			0.70			0.11			0.11	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2302			2064			148			159	
v/s Ratio Prot		0.27										
v/s Ratio Perm					c0.28			0.03			c0.07	
v/c Ratio		0.39			0.39			0.26			0.65	
Uniform Delay, d1		4.5			4.6			29.5			30.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.6			0.9			9.3	
Delay (s)		5.0			5.1			30.4			40.2	
Level of Service		A			A			C			D	
Approach Delay (s)		5.0			5.1			30.4			40.2	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM Average Control Delay		8.2			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.43										
Actuated Cycle Length (s)		72.5			Sum of lost time (s)			13.8				
Intersection Capacity Utilization		49.1%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	10	10	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		75	0		0	0		75	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50				
Trailing Detector (ft)	0	0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1509			808			774	
Travel Time (s)		14.7			34.3			18.4			17.6	
Volume (vph)	19	494	103	116	526	13	201	31	118	0	0	0
Lane Group Flow (vph)	0	650	136	0	776	0	0	422	0	0	0	0
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Detector Phases	6	6	6	5	2		4	4				
Minimum Initial (s)	6.0	6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)	20.0	20.0	20.0	4.0	20.0		20.0	20.0				
Total Split (s)	33.0	33.0	33.0	4.0	37.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0
Total Split (%)	41.3%	41.3%	41.3%	5.0%	46.3%	0.0%	26.3%	26.3%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0	3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	Max	Max		Max	Max				
v/c Ratio		0.62	0.29		0.96			1.12				
Control Delay		24.0	20.3		47.3			116.2				
Queue Delay		0.0	0.0		0.0			0.0				
Total Delay		24.0	20.3		47.3			116.2				
Queue Length 50th (ft)		137	47		192			~247				
Queue Length 95th (ft)		164	74		#297			#288				
Internal Link Dist (ft)		567			1429			728			694	
Turn Bay Length (ft)			75									
Base Capacity (vph)		1056	472		812			376				
Starvation Cap Reductn		0	0		0			0				
Spillback Cap Reductn		0	0		0			0				
Storage Cap Reductn		0	0		0			0				
Reduced v/c Ratio		0.62	0.29		0.96			1.12				

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 90

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	13.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	28%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
 4: Mass. Ave. & Lake St./Winter St.

Timings
 Existing (2008) Sat. MIDDAY Peak

Control Type: Pretimed

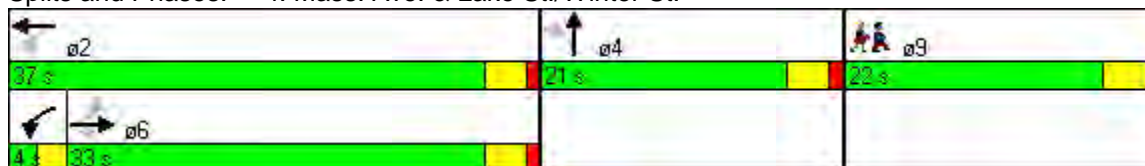
~ Volume exceeds capacity, queue is theoretically infinite.

















Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

















Splits and Phases: 4: Mass. Ave. & Lake St./Winter St.



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	10	10	12	12	12
Total Lost time (s)		4.0	4.0		4.0			4.0				
Lane Util. Factor		0.95	1.00		0.95			1.00				
Frpb, ped/bikes		1.00	0.94		1.00			0.97				
Flpb, ped/bikes		1.00	1.00		1.00			0.96				
Frt		1.00	0.85		0.99			0.95				
Flt Protected		1.00	1.00		0.99			0.97				
Satd. Flow (prot)		3262	1303		3216			1771				
Flt Permitted		0.89	1.00		0.61			0.97				
Satd. Flow (perm)		2913	1303		1966			1771				
Volume (vph)	19	494	103	116	526	13	201	31	118	0	0	0
Peak-hour factor, PHF	0.59	0.80	0.76	0.81	0.87	0.46	0.90	0.71	0.76	0.92	0.92	0.92
Adj. Flow (vph)	32	618	136	143	605	28	223	44	155	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	650	136	0	776	0	0	422	0	0	0	0
Confl. Peds. (#/hr)	10		10	50		51	48		48	32		33
Confl. Bikes (#/hr)			24			20						1
Heavy Vehicles (%)	0%	3%	1%	0%	3%	0%	1%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)		2	2		2	2						
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Actuated Green, G (s)		29.0	29.0		33.0			17.0				
Effective Green, g (s)		29.0	29.0		33.0			17.0				
Actuated g/C Ratio		0.36	0.36		0.41			0.21				
Clearance Time (s)		4.0	4.0		4.0			4.0				
Lane Grp Cap (vph)		1056	472		811			376				
v/s Ratio Prot												
v/s Ratio Perm		0.22	0.10		0.39			0.24				
v/c Ratio		0.62	0.29		0.96			1.12				
Uniform Delay, d1		20.9	18.2		22.8			31.5				
Progression Factor		1.00	1.00		1.00			1.00				
Incremental Delay, d2		2.7	1.5		22.7			83.9				
Delay (s)		23.6	19.7		45.5			115.4				
Level of Service		C	B		D			F				
Approach Delay (s)		22.9			45.5			115.4			0.0	
Approach LOS		C			D			F			A	
Intersection Summary												
HCM Average Control Delay			51.4				HCM Level of Service				D	
HCM Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			30.0		
Intersection Capacity Utilization			67.8%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

Timings
Existing (2008) Sat. Midday Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	10	10	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	9	598	0	0	562	11	14	2	25	5	0	23
Lane Group Flow (vph)	0	628	0	0	624	0	0	76	0	0	44	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	20.0	20.0			20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.0	24.0			24.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	0.0	50.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	66.7%	66.7%	0.0%	0.0%	66.7%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.24			0.23			0.42			0.28	
Control Delay		3.2			3.1			21.5			19.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.2			3.1			21.5			19.8	
Queue Length 50th (ft)		23			22			10			4	
Queue Length 95th (ft)		94			90			18			35	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2568			2734			183			158	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.24			0.23			0.42			0.28	
Intersection Summary												
Area Type:	Other											
Cycle Length:	75											
Actuated Cycle Length:	73.3											
Natural Cycle:	50											
Control Type:	Semi Act-Uncoord											





















Splits and Phases: 5: Mass. Ave. & Thorndike St./Teel St.

← ø2		↑ ø4	ø9
50 s		10 s	15 s
→ ø6		↓ ø8	
50 s		10 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	15.0
Total Split (s)	15.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	





















Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

HCM Signalized Intersection Capacity Analysis
Existing (2008) Sat. Midday Peak

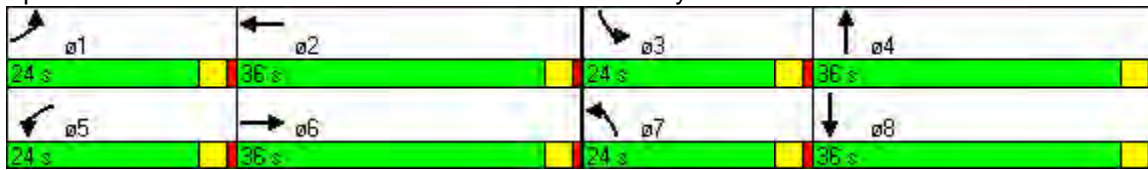
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	10	10	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.96	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		1.00			1.00			0.91			0.90	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		3281			3297			1789			1605	
Flt Permitted		0.94			1.00			0.92			0.91	
Satd. Flow (perm)		3099			3297			1678			1486	
Volume (vph)	9	598	0	0	562	11	14	2	25	5	0	23
Peak-hour factor, PHF	0.75	0.97	0.92	0.92	0.93	0.55	0.58	0.50	0.52	0.42	0.92	0.72
Adj. Flow (vph)	12	616	0	0	604	20	24	4	48	12	0	32
RTOR Reduction (vph)	0	0	0	0	2	0	0	45	0	0	30	0
Lane Group Flow (vph)	0	628	0	0	622	0	0	31	0	0	14	0
Confl. Peds. (#/hr)	14		14	12		13	5		5	8		8
Confl. Bikes (#/hr)			43			36						1
Heavy Vehicles (%)	0%	3%	2%	2%	2%	0%	0%	0%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	7	7	0	7	7	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		59.2			59.2			4.1			4.1	
Effective Green, g (s)		59.2			59.2			4.1			4.1	
Actuated g/C Ratio		0.77			0.77			0.05			0.05	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2395			2548			90			80	
v/s Ratio Prot					0.19							
v/s Ratio Perm		c0.20						c0.02			0.01	
v/c Ratio		0.26			0.24			0.34			0.17	
Uniform Delay, d1		2.5			2.4			34.9			34.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.2			2.2			1.0	
Delay (s)		2.7			2.7			37.2			35.6	
Level of Service		A			A			D			D	
Approach Delay (s)		2.7			2.7			37.2			35.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay		5.7										
HCM Volume to Capacity ratio		0.27										
Actuated Cycle Length (s)		76.6						13.3				
Intersection Capacity Utilization		36.5%										
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Existing (2008) Sat. Midday Peak





















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		929			689			656			574	
Travel Time (s)		21.1			15.7			14.9			13.0	
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	24.0	36.0	0.0	24.0	36.0	0.0	24.0	36.0	0.0	24.0	36.0	0.0
Total Split (%)	20.0%	30.0%	0.0%	20.0%	30.0%	0.0%	20.0%	30.0%	0.0%	20.0%	30.0%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	Max		None	Max		None	None		None	None	
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		849			609			576			494	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												
Intersection Summary												
Area Type:	Other											
Cycle Length:	120											
Actuated Cycle Length:	120											
Natural Cycle:	60											
Control Type:	Actuated-Uncoordinated											

Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.



















Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Existing (2008) Sat. Midday Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay		0.0			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.00										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			0.0				
Intersection Capacity Utilization		0.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

CAPACITY ANALYSIS

2018 No-Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	918	29	18	688	0	20	0	20	55	18	13
Lane Group Flow (vph)	0	1214	0	0	816	0	0	76	0	0	111	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			8	
Permitted Phases				2			4			8		
Detector Phases		6		2	2		4	4		8	8	
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	0.0	48.0	0.0	48.0	48.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	60.8%	0.0%	60.8%	60.8%	0.0%	15.2%	15.2%	0.0%	15.2%	15.2%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		Max		Max	Max		None	None		None	None	
v/c Ratio		0.53			0.40			0.37			0.67	
Control Delay		6.8			5.8			19.9			47.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.8			5.8			19.9			47.2	
Queue Length 50th (ft)		71			42			10			34	
Queue Length 95th (ft)		217			164			53			#118	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)												
Base Capacity (vph)		2307			2033			205			168	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.53			0.40			0.37			0.66	
Intersection Summary												
Area Type:	Other											
Cycle Length:	79											
Actuated Cycle Length:	75.8											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	24%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
 1: Mass. Ave. & Linwood St./Foster St.

Timings
 Future (2018) No-Build AM Peak













95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Mass. Ave. & Linwood St./Foster St.

← ø2	↑ ø4	ø9
48 s	12 s	19 s
→ ø6	↓ ø8	
48 s	12 s	













Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

HCM Signalized Intersection Capacity Analysis
Future (2018) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↑↓			↑↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			0.98	
Frt		1.00			1.00			0.92			0.97	
Flt Protected		1.00			1.00			0.98			0.97	
Satd. Flow (prot)		3174			3223			1670			1655	
Flt Permitted		1.00			0.87			0.86			0.81	
Satd. Flow (perm)		3174			2808			1459			1384	
Volume (vph)	0	918	29	18	688	0	20	0	20	55	18	13
Peak-hour factor, PHF	0.92	0.78	0.78	0.53	0.88	0.92	0.68	0.92	0.43	0.81	0.85	0.60
Adj. Flow (vph)	0	1177	37	34	782	0	29	0	47	68	21	22
RTOR Reduction (vph)	0	2	0	0	0	0	0	42	0	0	12	0
Lane Group Flow (vph)	0	1212	0	0	816	0	0	34	0	0	99	0
Confl. Peds. (#/hr)	1		1	1		1	6		6	16		17
Confl. Bikes (#/hr)			27			10			1			8
Heavy Vehicles (%)	2%	5%	0%	0%	4%	2%	0%	2%	0%	2%	0%	17%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type		Perm				Perm				Perm		
Protected Phases		6			2			4			8	
Permitted Phases			2				4			8		
Actuated Green, G (s)		55.1			55.1			8.5			8.5	
Effective Green, g (s)		55.1			55.1			8.5			8.5	
Actuated g/C Ratio		0.71			0.71			0.11			0.11	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2251			1991			160			151	
v/s Ratio Prot		c0.38										
v/s Ratio Perm					0.29			0.02			c0.07	
v/c Ratio		0.54			0.41			0.21			0.66	
Uniform Delay, d1		5.3			4.6			31.6			33.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			0.6			0.7			9.9	
Delay (s)		6.2			5.3			32.2			43.1	
Level of Service		A			A			C			D	
Approach Delay (s)		6.2			5.3			32.2			43.1	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM Average Control Delay		8.6			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		77.7			Sum of lost time (s)			14.1				
Intersection Capacity Utilization		48.3%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												
















Mass. Ave. - Arlington
2: Mass. Ave. & Marion Rd./Bates Rd.

HCM Unsignalized Intersection Capacity Analysis
Future (2018) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕				↕↕		↕				↕	
Sign Control	Free				Free		Stop				Stop	
Grade	0%				0%		0%				0%	
Volume (veh/h)	45	910	7	2	636	62	4	3	8	258	1	107
Peak Hour Factor	0.67	0.80	0.35	0.25	0.87	0.70	0.50	0.38	0.67	0.86	0.25	0.85
Hourly flow rate (vph)	67	1138	20	8	731	89	8	8	12	300	4	126
Pedestrians	4				4						1	
Lane Width (ft)	12.0				12.0						12.0	
Walking Speed (ft/s)	4.0				4.0						4.0	
Percent Blockage	0				0						0	
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	452											
pX, platoon unblocked			0.84				0.84	0.84	0.84	0.84	0.84	0.84
vC, conflicting volume	821			1158			1795	2118	583	1515	2084	415
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	821			1002			1758	2140	322	1426	2100	415
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			74	79	98	0	90	79
cM capacity (veh/h)	817			590			31	38	572	61	40	590
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	636	589	374	454	28	430						
Volume Left	67	0	8	0	8	300						
Volume Right	0	20	0	89	12	126						
cSH	817	1700	590	1700	57	83						
Volume to Capacity	0.08	0.35	0.01	0.27	0.49	5.19						
Queue Length 95th (ft)	7	0	1	0	47	Err						
Control Delay (s)	2.1	0.0	0.4	0.0	116.6	Err						
Lane LOS	A		A		F	F						
Approach Delay (s)	1.1		0.2		116.6	Err						
Approach LOS					F	F						
Intersection Summary												
Average Delay			1714.4									
Intersection Capacity Utilization			84.0%		ICU Level of Service				E			
Analysis Period (min)			15									













Mass. Ave. - Arlington
3: Mass. Ave. & Orvis Rd./Grafton St.

HCM Unsignalized Intersection Capacity Analysis
Future (2018) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	1025	197	56	621	35	34	5	24	0	0	0
Peak Hour Factor	0.56	0.85	0.74	0.95	0.89	0.83	0.67	0.42	0.96	0.92	0.92	0.92
Hourly flow rate (vph)	34	1206	266	59	698	42	51	12	25	0	0	0
Pedestrians		2			3			12			12	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		1192			647							
pX, platoon unblocked	0.97			0.97			0.99	0.99	0.97	0.99	0.99	0.97
vC, conflicting volume	752			1484			1888	2289	751	1553	2401	384
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	716			1470			1805	2212	717	1466	2326	338
tC, single (s)	4.1			4.1			7.5	6.9	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.2	3.3	3.5	4.0	3.3
p0 queue free %	96			87			0	57	93	100	100	100
cM capacity (veh/h)	869			438			43	28	353	48	30	639
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	637	869	408	391	88							
Volume Left	34	0	59	0	51							
Volume Right	0	266	0	42	25							
cSH	869	1700	438	1700	52							
Volume to Capacity	0.04	0.51	0.13	0.23	1.68							
Queue Length 95th (ft)	3	0	12	0	209							
Control Delay (s)	1.0	0.0	4.2	0.0	503.6							
Lane LOS	A		A		F							
Approach Delay (s)	0.4		2.1		503.6							
Approach LOS					F							
Intersection Summary												
Average Delay			19.4									
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									

Mass. Ave. - Arlington
4: Mass. Ave. & Lake St./Winter St.

Timings
Future (2018) No-Build AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑			↑				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	10	10	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		75	0		0	0		75	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50				
Trailing Detector (ft)	0	0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1509			808			774	
Travel Time (s)		14.7			34.3			18.4			17.6	
Volume (vph)	28	830	288	177	501	32	179	78	245	0	0	0
Lane Group Flow (vph)	0	1014	347	0	791	0	0	694	0	0	0	0
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Detector Phases	6	6	6	5	2		4	4				
Minimum Initial (s)	6.0	6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)	20.0	20.0	20.0	4.0	20.0		20.0	20.0				
Total Split (s)	33.0	33.0	33.0	4.0	37.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0
Total Split (%)	41.3%	41.3%	41.3%	5.0%	46.3%	0.0%	26.3%	26.3%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0	3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	Max	Max		Max	Max				
v/c Ratio		0.97	0.78		2.44dl			1.82				
Control Delay		47.3	36.9		114.3			402.1				
Queue Delay		0.0	0.0		0.0			0.0				
Total Delay		47.3	36.9		114.3			402.1				
Queue Length 50th (ft)		256	151		~250			~531				
Queue Length 95th (ft)		#353	#238		#362			#537				
Internal Link Dist (ft)		567			1429			728			694	
Turn Bay Length (ft)			75									
Base Capacity (vph)		1050	447		680			382				
Starvation Cap Reductn		0	0		0			0				
Spillback Cap Reductn		0	0		0			0				
Storage Cap Reductn		0	0		0			0				
Reduced v/c Ratio		0.97	0.78		1.16			1.82				

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
Natural Cycle: 150



Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	13.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	28%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.













dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 4: Mass. Ave. & Lake St./Winter St.

← ø2	↑ ø4	ø9
37 s	21 s	22 s
↙ ↘ ø6 4 33 s		

Mass. Ave. - Arlington
4: Mass. Ave. & Lake St./Winter St.

HCM Signalized Intersection Capacity Analysis
Future (2018) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑			↑				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	10	10	12	12	12
Total Lost time (s)		4.0	4.0		4.0			4.0				
Lane Util. Factor		0.95	1.00		0.95			1.00				
Frpb, ped/bikes		1.00	0.93		1.00			0.98				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		0.99			0.93				
Flt Protected		1.00	1.00		0.99			0.98				
Satd. Flow (prot)		3218	1233		3095			1797				
Flt Permitted		0.90	1.00		0.53			0.98				
Satd. Flow (perm)		2895	1233		1648			1797				
Volume (vph)	28	830	288	177	501	32	179	78	245	0	0	0
Peak-hour factor, PHF	0.73	0.85	0.83	0.93	0.91	0.64	0.75	0.71	0.71	0.92	0.92	0.92
Adj. Flow (vph)	38	976	347	190	551	50	239	110	345	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1014	347	0	791	0	0	694	0	0	0	0
Confl. Peds. (#/hr)	14		14	14		13	15		14	24		24
Confl. Bikes (#/hr)			33			20			1			
Heavy Vehicles (%)	0%	6%	3%	3%	6%	3%	4%	0%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		2	2		2	2						
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Actuated Green, G (s)		29.0	29.0		33.0			17.0				
Effective Green, g (s)		29.0	29.0		33.0			17.0				
Actuated g/C Ratio		0.36	0.36		0.41			0.21				
Clearance Time (s)		4.0	4.0		4.0			4.0				
Lane Grp Cap (vph)		1049	447		680			382				
v/s Ratio Prot												
v/s Ratio Perm		0.35	0.28		c0.48			0.39				
v/c Ratio		0.97	0.78		2.44dl			1.82				
Uniform Delay, d1		25.0	22.6		23.5			31.5				
Progression Factor		1.00	1.00		1.00			1.00				
Incremental Delay, d2		20.8	12.4		89.0			377.7				
Delay (s)		45.9	35.1		112.5			409.2				
Level of Service		D	D		F			F				
Approach Delay (s)		43.1			112.5			409.2			0.0	
Approach LOS		D			F			F			A	
Intersection Summary												
HCM Average Control Delay			151.7				HCM Level of Service			F		
HCM Volume to Capacity ratio			1.39									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			30.0		
Intersection Capacity Utilization			86.2%				ICU Level of Service			E		
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	8	959	0	0	662	4	28	2	24	6	0	22
Lane Group Flow (vph)	0	1144	0	0	690	0	0	82	0	0	45	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	20.0	20.0			20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.0	24.0			24.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	0.0	50.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	66.7%	66.7%	0.0%	0.0%	66.7%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.48			0.27			0.52			0.29	
Control Delay		4.9			3.6			31.8			19.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		4.9			3.6			31.8			19.9	
Queue Length 50th (ft)		53			25			17			4	
Queue Length 95th (ft)		191			103			6			35	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2380			2513			157			156	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.48			0.27			0.52			0.29	
Intersection Summary												
Area Type:	Other											
Cycle Length:	75											
Actuated Cycle Length:	75											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											













Splits and Phases: 5: Mass. Ave. & Thorndike St./Teel St.

← ø2		↑ ø4	ø9
50 s		10 s	15 s
→ ø6		↓ ø8	
50 s		10 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	15.0
Total Split (s)	15.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	





















Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

HCM Signalized Intersection Capacity Analysis
Future (2018) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↔			↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.95	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		1.00			1.00			0.95			0.90	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		3218			3211			1675			1585	
Flt Permitted		0.94			1.00			0.88			0.91	
Satd. Flow (perm)		3039			3211			1509			1455	
Volume (vph)	8	959	0	0	662	4	28	2	24	6	0	22
Peak-hour factor, PHF	0.50	0.85	0.92	0.92	0.97	0.50	0.68	0.25	0.72	0.50	0.92	0.66
Adj. Flow (vph)	16	1128	0	0	682	8	41	8	33	12	0	33
RTOR Reduction (vph)	0	0	0	0	1	0	0	31	0	0	31	0
Lane Group Flow (vph)	0	1144	0	0	689	0	0	51	0	0	14	0
Confl. Peds. (#/hr)	3		3				5		5	15		14
Confl. Bikes (#/hr)			51			9			3			1
Heavy Vehicles (%)	0%	4%	2%	2%	4%	25%	4%	0%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm				Perm				Perm			
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		58.2			58.2			5.7			5.7	
Effective Green, g (s)		58.2			58.2			5.7			5.7	
Actuated g/C Ratio		0.75			0.75			0.07			0.07	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2288			2418			111			107	
v/s Ratio Prot					0.21							
v/s Ratio Perm		c0.38						c0.03			0.01	
v/c Ratio		0.50			0.29			0.46			0.13	
Uniform Delay, d1		3.8			3.0			34.3			33.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			0.3			3.0			0.6	
Delay (s)		4.6			3.3			37.4			34.1	
Level of Service		A			A			D			C	
Approach Delay (s)		4.6			3.3			37.4			34.1	
Approach LOS		A			A			D			C	
Intersection Summary												
HCM Average Control Delay		6.2			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.50										
Actuated Cycle Length (s)		77.3			Sum of lost time (s)			13.4				
Intersection Capacity Utilization		46.9%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Future (2018) No-Build AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		929			689			656			574	
Travel Time (s)		21.1			15.7			14.9			13.0	
Volume (vph)	122	733	152	270	493	45	79	485	286	109	1102	30
Lane Group Flow (vph)	177	955	0	293	625	0	93	895	0	125	1252	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	15.0	38.0	0.0	18.0	41.0	0.0	17.0	41.0	0.0	17.0	41.0	0.0
Total Split (%)	13.2%	33.3%	0.0%	15.8%	36.0%	0.0%	14.9%	36.0%	0.0%	14.9%	36.0%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
v/c Ratio	1.02	0.97		1.38	0.56		0.52	0.83		0.62	1.08	
Control Delay	124.3	63.1		234.1	34.2		58.7	43.6		62.8	89.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	124.3	63.1		234.1	34.2		58.7	43.6		62.8	89.9	
Queue Length 50th (ft)	~135	364		~285	198		65	317		89	~543	
Queue Length 95th (ft)	#183	#504		#458	247		114	351		147	#678	
Internal Link Dist (ft)		849			609			576			494	
Turn Bay Length (ft)	75											
Base Capacity (vph)	174	981		213	1110		179	1077		200	1154	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.02	0.97		1.38	0.56		0.52	0.83		0.63	1.08	
Intersection Summary												
Area Type:	Other											
Cycle Length:	114											
Actuated Cycle Length:	114											
Offset:	24 (21%), Referenced to phase 2:WBT and 6:EBT, Start of Green											
Natural Cycle:	120											

Mass. Ave. - Arlington
 6: Mass. Ave. & Alewife Brook Pkwy.

Timings
 Future (2018) No-Build AM Peak

Control Type: Pretimed

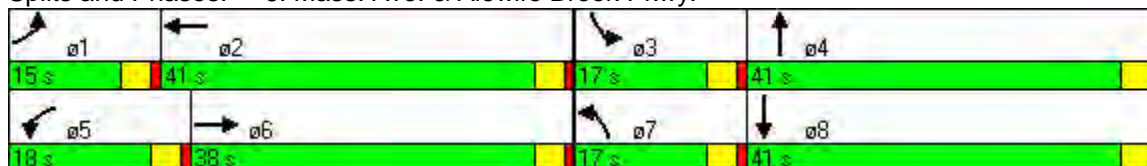
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

















Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.



Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Future (2018) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3288		1736	3420		1570	3318		1752	3556	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	3288		1736	3420		1570	3318		1752	3556	
Volume (vph)	122	733	152	270	493	45	79	485	286	109	1102	30
Peak-hour factor, PHF	0.69	0.93	0.91	0.92	0.87	0.77	0.85	0.82	0.94	0.87	0.91	0.73
Adj. Flow (vph)	177	788	167	293	567	58	93	591	304	125	1211	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	955	0	293	625	0	93	895	0	125	1252	0
Confl. Peds. (#/hr)	27		28	4		4	1		1	3		3
Confl. Bikes (#/hr)			47			10			3			1
Heavy Vehicles (%)	0%	5%	5%	4%	4%	2%	15%	1%	6%	3%	1%	0%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	11.0	34.0		14.0	37.0		13.0	37.0		13.0	37.0	
Effective Green, g (s)	11.0	34.0		14.0	37.0		13.0	37.0		13.0	37.0	
Actuated g/C Ratio	0.10	0.30		0.12	0.32		0.11	0.32		0.11	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	174	981		213	1110		179	1077		200	1154	
v/s Ratio Prot	0.10	c0.29		c0.17	c0.18		0.06	0.27		c0.07	c0.35	
v/s Ratio Perm												
v/c Ratio	1.02	0.97		1.38	0.56		0.52	0.83		0.62	1.08	
Uniform Delay, d1	51.5	39.6		50.0	31.8		47.6	35.6		48.2	38.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	72.8	23.0		195.7	2.1		10.4	7.5		13.9	52.7	
Delay (s)	124.3	62.6		245.7	33.9		57.9	43.1		62.0	91.2	
Level of Service	F	E		F	C		E	D		E	F	
Approach Delay (s)		72.2			101.5			44.5			88.5	
Approach LOS		E			F			D			F	
Intersection Summary												
HCM Average Control Delay			77.2			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			114.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			89.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	826	30	13	819	0	23	0	18	43	9	20
Lane Group Flow (vph)	0	955	0	0	942	0	0	63	0	0	125	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			8	
Permitted Phases				2			4			8		
Detector Phases		6		2	2		4	4		8	8	
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	0.0	48.0	0.0	48.0	48.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	60.8%	0.0%	60.8%	60.8%	0.0%	15.2%	15.2%	0.0%	15.2%	15.2%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		Max		Max	Max		None	None		None	None	
v/c Ratio		0.41			0.43			0.36			0.65	
Control Delay		5.7			6.0			23.9			41.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.7			6.0			23.9			41.0	
Queue Length 50th (ft)		48			50			11			34	
Queue Length 95th (ft)		192			195			52			55	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)												
Base Capacity (vph)		2333			2169			179			195	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.41			0.43			0.35			0.64	
Intersection Summary												
Area Type:	Other											
Cycle Length:	79											
Actuated Cycle Length:	71.4											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											

















Splits and Phases: 1: Mass. Ave. & Linwood St./Foster St.

← ø2	↑ ø4	ø9
48 s	12 s	19 s
→ ø6	↓ ø8	
48 s	12 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	24%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

















Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

HCM Signalized Intersection Capacity Analysis
Future (2018) No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.98	
Frt		0.99			1.00			0.94			0.95	
Flt Protected		1.00			1.00			0.97			0.97	
Satd. Flow (prot)		3228			3255			1694			1688	
Flt Permitted		1.00			0.92			0.77			0.86	
Satd. Flow (perm)		3228			3011			1346			1487	
Volume (vph)	0	826	30	13	819	0	23	0	18	43	9	20
Peak-hour factor, PHF	0.92	0.90	0.81	0.60	0.89	0.92	0.69	0.92	0.61	0.64	0.56	0.48
Adj. Flow (vph)	0	918	37	22	920	0	33	0	30	67	16	42
RTOR Reduction (vph)	0	2	0	0	0	0	0	27	0	0	23	0
Lane Group Flow (vph)	0	953	0	0	942	0	0	36	0	0	102	0
Confl. Peds. (#/hr)	2		1	5		5	7		7	14		14
Confl. Bikes (#/hr)			8			17			2			1
Heavy Vehicles (%)	2%	3%	3%	0%	3%	2%	0%	2%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type		Perm				Perm				Perm		
Protected Phases		6			2			4			8	
Permitted Phases			2				4			8		
Actuated Green, G (s)		51.5			51.5			8.1			8.1	
Effective Green, g (s)		51.5			51.5			8.1			8.1	
Actuated g/C Ratio		0.70			0.70			0.11			0.11	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2262			2110			148			164	
v/s Ratio Prot		0.30										
v/s Ratio Perm					c0.31			0.03			c0.07	
v/c Ratio		0.42			0.45			0.25			0.62	
Uniform Delay, d1		4.7			4.8			29.9			31.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.7			0.9			7.1	
Delay (s)		5.2			5.5			30.8			38.4	
Level of Service		A			A			C			D	
Approach Delay (s)		5.2			5.5			30.8			38.4	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM Average Control Delay		8.1			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		73.5			Sum of lost time (s)			13.9				
Intersection Capacity Utilization		46.9%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

















Mass. Ave. - Arlington
2: Mass. Ave. & Marion Rd./Bates Rd.

HCM Unsignalized Intersection Capacity Analysis
Future (2018) No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	50	787	6	7	745	153	6	8	13	118	4	110
Peak Hour Factor	0.71	0.88	0.38	0.58	0.93	0.96	0.50	0.67	0.75	0.85	0.33	0.88
Hourly flow rate (vph)	70	894	16	12	801	159	12	12	17	139	12	125
Pedestrians								10			10	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		452										
pX, platoon unblocked				0.91			0.91	0.91	0.91	0.91	0.91	
vC, conflicting volume	970			920			1609	2048	465	1526	1976	490
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	970			809			1568	2053	307	1477	1973	490
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	7.0	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.2	3.3
p0 queue free %	90			98			66	73	97	0	67	76
cM capacity (veh/h)	712			742			35	44	625	56	37	525
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	518	463	413	560	41	276						
Volume Left	70	0	12	0	12	139						
Volume Right	0	16	0	159	17	125						
cSH	712	1700	742	1700	65	91						
Volume to Capacity	0.10	0.27	0.02	0.33	0.63	3.04						
Queue Length 95th (ft)	8	0	1	0	68	Err						
Control Delay (s)	2.7	0.0	0.5	0.0	128.4	Err						
Lane LOS	A		A		F	F						
Approach Delay (s)	1.4		0.2		128.4	Err						
Approach LOS					F	F						
Intersection Summary												
Average Delay		1218.4										
Intersection Capacity Utilization		79.4%		ICU Level of Service				D				
Analysis Period (min)		15										

Mass. Ave. - Arlington
3: Mass. Ave. & Orvis Rd./Grafton St.

HCM Unsignalized Intersection Capacity Analysis
Future (2018) No-Build PM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Volume (veh/h)	17	748	165	41	880	34	62	12	17	0	0	0	
Peak Hour Factor	0.67	0.86	0.96	0.70	0.96	0.73	0.87	0.60	0.80	0.92	0.92	0.92	
Hourly flow rate (vph)	25	870	172	59	917	47	71	20	21	0	0	0	
Pedestrians	1			1			13			13			
Lane Width (ft)	12.0			12.0			12.0			0.0			
Walking Speed (ft/s)	4.0			4.0			4.0			4.0			
Percent Blockage	0			0			1			0			
Right turn flare (veh)													
Median type							None			None			
Median storage veh													
Upstream signal (ft)	1192			647									
pX, platoon unblocked	0.87						0.87	0.87			0.87	0.87	0.87
vC, conflicting volume	976				1055			1596	2113	535	1588	2175	496
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	823				1055			1535	2130	535	1526	2202	270
tC, single (s)	4.1				4.2			7.5	6.7	6.9	7.5	6.5	6.9
tC, 2 stage (s)													
tF (s)	2.2				2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	96				91			0	42	96	100	100	100
cM capacity (veh/h)	709				643			61	34	489	33	33	632
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1								
Volume Total	460	607	517	505	113								
Volume Left	25	0	59	0	71								
Volume Right	0	172	0	47	21								
cSH	709	1700	643	1700	63								
Volume to Capacity	0.04	0.36	0.09	0.30	1.79								
Queue Length 95th (ft)	3	0	7	0	258								
Control Delay (s)	1.0	0.0	2.5	0.0	519.6								
Lane LOS	A			A	F								
Approach Delay (s)	0.4			1.3	519.6								
Approach LOS					F								
Intersection Summary													
Average Delay				27.4									
Intersection Capacity Utilization				74.2%	ICU Level of Service				D				
Analysis Period (min)				15									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER	ø9
Lane Configurations		↕↕	↗		↕↕					↘		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	2200	1900	
Lane Width (ft)	12	12	12	12	12	12	12	12	12	10	10	
Grade (%)		0%			0%		0%			0%		
Storage Length (ft)	0		75	0		0	0	0		0	75	
Storage Lanes	0		1	0		0	0	0		0	0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Leading Detector (ft)	50	50	50	50	50				50	50		
Trailing Detector (ft)	0	0	0	0	0				0	0		
Turning Speed (mph)	15		9	15		9	15	9	15	15	9	
Right Turn on Red			No			No					No	
Link Speed (mph)		30			30		30			30		
Link Distance (ft)		647			1509		774			808		
Travel Time (s)		14.7			34.3		17.6			18.4		
Volume (vph)	10	622	110	183	652	2	0	0	235	77	218	
Lane Group Flow (vph)	0	756	129	0	912	0	0	0	0	626	0	
Turn Type	Perm		Perm	pm+pt					Perm			
Protected Phases		6		5	2					4		9
Permitted Phases	6		6	2					4			
Detector Phases	6	6	6	5	2				4	4		
Minimum Initial (s)	6.0	6.0	6.0	2.0	6.0				6.0	6.0		13.0
Minimum Split (s)	20.0	20.0	20.0	4.0	20.0				20.0	20.0		22.0
Total Split (s)	33.0	33.0	33.0	4.0	37.0	0.0	0.0	0.0	21.0	21.0	0.0	22.0
Total Split (%)	41.3%	41.3%	41.3%	5.0%	46.3%	0.0%	0.0%	0.0%	26.3%	26.3%	0.0%	28%
Yellow Time (s)	3.0	3.0	3.0	2.0	3.0				3.0	3.0		3.0
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0				1.0	1.0		1.0
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	Max	Max				Max	Max		Max
v/c Ratio		0.68	0.27		1.59dl					1.62		
Control Delay		25.3	20.1		144.7					317.6		
Queue Delay		0.0	0.0		0.0					0.0		
Total Delay		25.3	20.1		144.7					317.6		
Queue Length 50th (ft)		164	45		~302					~458		
Queue Length 95th (ft)		206	81		#418					#549		
Internal Link Dist (ft)		567			1429		694			728		
Turn Bay Length (ft)			75									
Base Capacity (vph)		1116	471		735					386		
Starvation Cap Reductn		0	0		0					0		
Spillback Cap Reductn		0	0		0					0		
Storage Cap Reductn		0	0		0					0		
Reduced v/c Ratio		0.68	0.27		1.24					1.62		

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.






Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.
















dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 4: Mass. Ave. & Lake St./Winter St.

 ø2	 ø4	 ø9
37 s	21 s	22 s
  ø6 4 33 s		

















Mass. Ave. - Arlington
4: Mass. Ave. & Lake St./Winter St.

HCM Signalized Intersection Capacity Analysis
Future (2018) No-Build PM Peak

											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	2200	1900
Lane Width	12	12	12	12	12	12	12	12	12	10	10
Total Lost time (s)		4.0	4.0		4.0					4.0	
Lane Util. Factor		0.95	1.00		0.95					1.00	
Frpb, ped/bikes		1.00	0.96		1.00					0.98	
Flpb, ped/bikes		1.00	1.00		1.00					0.99	
Frt		1.00	0.85		1.00					0.94	
Flt Protected		1.00	1.00		0.99					0.97	
Satd. Flow (prot)		3310	1298		3227					1814	
Flt Permitted		0.93	1.00		0.55					0.97	
Satd. Flow (perm)		3077	1298		1783					1814	
Volume (vph)	10	622	110	183	652	2	0	0	235	77	218
Peak-hour factor, PHF	0.63	0.84	0.85	0.84	0.95	0.25	0.92	0.92	0.97	0.79	0.76
Adj. Flow (vph)	16	740	129	218	686	8	0	0	242	97	287
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	756	129	0	912	0	0	0	0	626	0
Confl. Peds. (#/hr)	10		10	6		6	15		16		17
Confl. Bikes (#/hr)			8			19					
Heavy Vehicles (%)	0%	3%	1%	1%	3%	0%	2%	2%	0%	0%	1%
Bus Blockages (#/hr)	0	0	12	0	11	11	0	0	0	0	0
Parking (#/hr)		2	2		0	0					
Turn Type	Perm		Perm	pm+pt					Perm		
Protected Phases		6		5	2					4	
Permitted Phases	6		6	2					4		
Actuated Green, G (s)		29.0	29.0		33.0					17.0	
Effective Green, g (s)		29.0	29.0		33.0					17.0	
Actuated g/C Ratio		0.36	0.36		0.41					0.21	
Clearance Time (s)		4.0	4.0		4.0					4.0	
Lane Grp Cap (vph)		1115	471		735					385	
v/s Ratio Prot											
v/s Ratio Perm		0.25	0.10		c0.51					0.35	
v/c Ratio		0.68	0.27		1.59dl					1.63	
Uniform Delay, d1		21.6	18.0		23.5					31.5	
Progression Factor		1.00	1.00		1.00					1.00	
Incremental Delay, d2		3.3	1.4		119.8					293.3	
Delay (s)		24.9	19.5		143.3					324.8	
Level of Service		C	B		F					F	
Approach Delay (s)		24.1			143.3		0.0			324.8	
Approach LOS		C			F		A			F	
Intersection Summary											
HCM Average Control Delay			146.7			HCM Level of Service				F	
HCM Volume to Capacity ratio			1.37								
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			30.0		
Intersection Capacity Utilization			88.6%			ICU Level of Service			E		
Analysis Period (min)			15								
dl Defacto Left Lane. Recode with 1 though lane as a left lane.											
c Critical Lane Group											

Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

Timings
Future (2018) No-Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	13	684	0	0	887	8	32	3	20	0	0	13
Lane Group Flow (vph)	0	769	0	0	966	0	0	72	0	0	26	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	20.0	20.0			20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.0	24.0			24.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	0.0	50.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	66.7%	66.7%	0.0%	0.0%	66.7%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.31			0.35			0.52			0.06	
Control Delay		3.5			3.6			34.5			0.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.5			3.6			34.5			0.2	
Queue Length 50th (ft)		30			40			16			0	
Queue Length 95th (ft)		121			156			48			0	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2503			2722			139			438	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.31			0.35			0.52			0.06	
Intersection Summary												
Area Type:	Other											
Cycle Length:	75											
Actuated Cycle Length:	75.1											
Natural Cycle:	50											
Control Type:	Semi Act-Uncoord											





















Splits and Phases: 5: Mass. Ave. & Thorndike St./Teel St.

← ø2		↑ ø4	ø9
50 s		10 s	15 s
→ ø6		↓ ø8	
50 s		10 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	15.0
Total Split (s)	15.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	





















Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

HCM Signalized Intersection Capacity Analysis
Future (2018) No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.95	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		1.00			1.00			0.95			0.86	
Flt Protected		1.00			1.00			0.97			1.00	
Satd. Flow (prot)		3248			3281			1686			1561	
Flt Permitted		0.93			1.00			0.80			1.00	
Satd. Flow (perm)		3021			3281			1392			1561	
Volume (vph)	13	684	0	0	887	8	32	3	20	0	0	13
Peak-hour factor, PHF	0.75	0.91	0.92	0.92	0.93	0.67	0.75	0.75	0.79	0.92	0.92	0.50
Adj. Flow (vph)	17	752	0	0	954	12	43	4	25	0	0	26
RTOR Reduction (vph)	0	0	0	0	1	0	0	24	0	0	25	0
Lane Group Flow (vph)	0	769	0	0	965	0	0	48	0	0	1	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Confl. Bikes (#/hr)			6			32			1			
Heavy Vehicles (%)	0%	3%	2%	2%	2%	0%	0%	0%	0%	2%	2%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		60.8			60.8			4.2			4.2	
Effective Green, g (s)		60.8			60.8			4.2			4.2	
Actuated g/C Ratio		0.78			0.78			0.05			0.05	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2343			2544			75			84	
v/s Ratio Prot					c0.29						0.00	
v/s Ratio Perm		0.25						c0.03				
v/c Ratio		0.33			0.38			0.64			0.02	
Uniform Delay, d1		2.7			2.8			36.4			35.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.4			17.4			0.1	
Delay (s)		3.0			3.2			53.8			35.2	
Level of Service		A			A			D			D	
Approach Delay (s)		3.0			3.2			53.8			35.2	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay		5.6			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.40										
Actuated Cycle Length (s)		78.4			Sum of lost time (s)			13.4				
Intersection Capacity Utilization		45.6%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Future (2018) No-Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	929			689			656			574		
Travel Time (s)	21.1			15.7			14.9			13.0		
Volume (vph)	112	508	94	299	553	84	165	790	275	91	646	108
Lane Group Flow (vph)	117	674	0	322	704	0	190	1186	0	121	876	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	20.0		10.0	20.0	
Total Split (s)	14.0	31.0	0.0	20.0	37.0	0.0	17.0	46.0	0.0	17.0	46.0	0.0
Total Split (%)	12.3%	27.2%	0.0%	17.5%	32.5%	0.0%	14.9%	40.4%	0.0%	14.9%	40.4%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
v/c Ratio	0.74	0.85		1.31	0.71		0.98	0.94		0.59	0.68	
Control Delay	78.1	52.9		204.7	41.1		110.7	50.5		60.8	33.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	78.1	52.9		204.7	41.1		110.7	50.5		60.8	33.7	
Queue Length 50th (ft)	85	249		~304	243		141	438		86	282	
Queue Length 95th (ft)	#177	#342		#483	312		#273	#584		122	338	
Internal Link Dist (ft)	849			609			576			494		
Turn Bay Length (ft)	75											
Base Capacity (vph)	158	795		246	985		194	1256		204	1283	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.74	0.85		1.31	0.71		0.98	0.94		0.59	0.68	

Intersection Summary

Area Type: Other
Cycle Length: 114
Actuated Cycle Length: 114
Offset: 28 (25%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 90

Mass. Ave. - Arlington
 6: Mass. Ave. & Alewife Brook Pkwy.

Timings
 Future (2018) No-Build PM Peak

Control Type: Pretimed

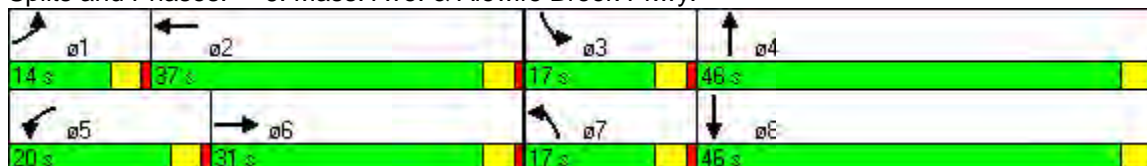
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.



















Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Future (2018) No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3356		1752	3402		1703	3407		1787	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	3356		1752	3402		1703	3407		1787	3484	
Volume (vph)	112	508	94	299	553	84	165	790	275	91	646	108
Peak-hour factor, PHF	0.96	0.94	0.70	0.93	0.93	0.77	0.87	0.92	0.84	0.75	0.87	0.81
Adj. Flow (vph)	117	540	134	322	595	109	190	859	327	121	743	133
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	674	0	322	704	0	190	1186	0	121	876	0
Confl. Peds. (#/hr)	14		13	13		12	5		4	1		2
Confl. Bikes (#/hr)			8			30						
Heavy Vehicles (%)	0%	3%	5%	3%	3%	1%	6%	1%	1%	1%	1%	1%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	10.0	27.0		16.0	33.0		13.0	42.0		13.0	42.0	
Effective Green, g (s)	10.0	27.0		16.0	33.0		13.0	42.0		13.0	42.0	
Actuated g/C Ratio	0.09	0.24		0.14	0.29		0.11	0.37		0.11	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	158	795		246	985		194	1255		204	1284	
v/s Ratio Prot	0.06	c0.20		c0.18	0.21		c0.11	c0.35		0.07	0.25	
v/s Ratio Perm												
v/c Ratio	0.74	0.85		1.31	0.71		0.98	0.95		0.59	0.68	
Uniform Delay, d1	50.7	41.5		49.0	36.3		50.4	34.9		48.0	30.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	26.5	10.9		165.1	4.4		59.5	15.3		12.1	2.9	
Delay (s)	77.2	52.4		214.1	40.7		109.8	50.1		60.1	33.3	
Level of Service	E	D		F	D		F	D		E	C	
Approach Delay (s)		56.1			95.1			58.4			36.6	
Approach LOS		E			F			E			D	
Intersection Summary												
HCM Average Control Delay			61.8			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			114.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			82.9%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

CAPACITY ANALYSIS

2028 No-Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	960	31	19	721	0	21	0	21	57	19	13
Lane Group Flow (vph)	0	1271	0	0	855	0	0	80	0	0	114	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			8	
Permitted Phases				2			4			8		
Detector Phases		6		2	2		4	4		8	8	
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	0.0	48.0	0.0	48.0	48.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	60.8%	0.0%	60.8%	60.8%	0.0%	15.2%	15.2%	0.0%	15.2%	15.2%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		Max		Max	Max		None	None		None	None	
v/c Ratio		0.55			0.43			0.39			0.69	
Control Delay		7.1			6.0			20.1			49.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.1			6.0			20.1			49.1	
Queue Length 50th (ft)		76			45			10			35	
Queue Length 95th (ft)		232			176			55			#124	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)												
Base Capacity (vph)		2298			2003			207			167	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.55			0.43			0.39			0.68	
Intersection Summary												
Area Type:	Other											
Cycle Length:	79											
Actuated Cycle Length:	73.7											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	24%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
 1: Mass. Ave. & Linwood St./Foster St.

Timings
 Future (2028) No-Build AM Peak

















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Mass. Ave. & Linwood St./Foster St.

← ø2	↑ ø4	ø9
48 s	12 s	19 s
→ ø6	↓ ø8	
48 s	12 s	

















Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

HCM Signalized Intersection Capacity Analysis
Future (2028) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			0.98	
Frt		1.00			1.00			0.92			0.97	
Flt Protected		1.00			1.00			0.98			0.97	
Satd. Flow (prot)		3174			3223			1672			1660	
Flt Permitted		1.00			0.86			0.85			0.81	
Satd. Flow (perm)		3174			2784			1451			1379	
Volume (vph)	0	960	31	19	721	0	21	0	21	57	19	13
Peak-hour factor, PHF	0.92	0.78	0.78	0.53	0.88	0.92	0.68	0.92	0.43	0.81	0.85	0.60
Adj. Flow (vph)	0	1231	40	36	819	0	31	0	49	70	22	22
RTOR Reduction (vph)	0	2	0	0	0	0	0	44	0	0	11	0
Lane Group Flow (vph)	0	1269	0	0	855	0	0	36	0	0	103	0
Confl. Peds. (#/hr)	1		1	1		1	6		6	16		17
Confl. Bikes (#/hr)			27			10			1			8
Heavy Vehicles (%)	2%	5%	0%	0%	4%	2%	0%	2%	0%	2%	0%	17%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type		Perm				Perm				Perm		
Protected Phases		6			2			4			8	
Permitted Phases			2				4			8		
Actuated Green, G (s)		53.3			53.3			8.4			8.4	
Effective Green, g (s)		53.3			53.3			8.4			8.4	
Actuated g/C Ratio		0.70			0.70			0.11			0.11	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2235			1960			161			153	
v/s Ratio Prot		c0.40										
v/s Ratio Perm					0.31			0.03			c0.07	
v/c Ratio		0.57			0.44			0.23			0.68	
Uniform Delay, d1		5.5			4.8			30.7			32.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			0.7			0.7			11.2	
Delay (s)		6.6			5.5			31.4			43.5	
Level of Service		A			A			C			D	
Approach Delay (s)		6.6			5.5			31.4			43.5	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM Average Control Delay		8.8			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		75.7			Sum of lost time (s)			14.0				
Intersection Capacity Utilization		50.1%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												
















Mass. Ave. - Arlington
2: Mass. Ave. & Marion Rd./Bates Rd.

















HCM Unsignalized Intersection Capacity Analysis
Future (2028) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	47	953	8	2	666	65	4	3	9	270	1	112
Peak Hour Factor	0.67	0.80	0.35	0.25	0.87	0.70	0.50	0.38	0.67	0.86	0.25	0.85
Hourly flow rate (vph)	70	1191	23	8	766	93	8	8	13	314	4	132
Pedestrians		4			4						1	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None							None			
Median storage veh												
Upstream signal (ft)		452										
pX, platoon unblocked				0.83			0.83	0.83	0.83	0.83	0.83	0.83
vC, conflicting volume	859			1214			1880	2218	611	1586	2183	434
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	859			1047			1854	2265	317	1499	2222	434
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			99			68	74	98	0	88	77
cM capacity (veh/h)	790			554			25	31	563	50	33	573
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	666	618	391	476	29	450						
Volume Left	70	0	8	0	8	314						
Volume Right	0	23	0	93	13	132						
cSH	790	1700	554	1700	48	68						
Volume to Capacity	0.09	0.36	0.01	0.28	0.61	6.61						
Queue Length 95th (ft)	7	0	1	0	58	Err						
Control Delay (s)	2.3	0.0	0.4	0.0	158.5	Err						
Lane LOS	A		A		F	F						
Approach Delay (s)	1.2		0.2		158.5	9999.0						
Approach LOS					F	F						
Intersection Summary												
Average Delay		1712.4										
Intersection Capacity Utilization		87.1%		ICU Level of Service				E				
Analysis Period (min)		15										

Mass. Ave. - Arlington
3: Mass. Ave. & Orvis Rd./Grafton St.

HCM Unsignalized Intersection Capacity Analysis
Future (2028) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Free				Free		Stop		Stop			
Grade	0%				0%		0%		0%			
Volume (veh/h)	20	1073	206	58	650	36	35	6	25	0	0	0
Peak Hour Factor	0.56	0.85	0.74	0.95	0.89	0.83	0.67	0.42	0.96	0.92	0.92	0.92
Hourly flow rate (vph)	36	1262	278	61	730	43	52	14	26	0	0	0
Pedestrians	2				3		12		12			
Lane Width (ft)	12.0				12.0		12.0		0.0			
Walking Speed (ft/s)	4.0				4.0		4.0		4.0			
Percent Blockage	0				0		1		0			
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	1192				647							
pX, platoon unblocked	0.96			0.95			0.97	0.97	0.95	0.97	0.97	0.96
vC, conflicting volume	786			1553			1974	2393	785	1625	2510	401
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	737			1530			1855	2286	724	1495	2407	337
tC, single (s)	4.1			4.1			7.5	6.9	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.2	3.3	3.5	4.0	3.3
p0 queue free %	96			85			0	41	92	100	100	100
cM capacity (veh/h)	844			406			38	24	342	35	25	632
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	667	910	426	409	93							
Volume Left	36	0	61	0	52							
Volume Right	0	278	0	43	26							
cSH	844	1700	406	1700	45							
Volume to Capacity	0.04	0.54	0.15	0.24	2.05							
Queue Length 95th (ft)	3	0	13	0	239							
Control Delay (s)	1.1	0.0	4.7	0.0	678.3							
Lane LOS	A		A		F							
Approach Delay (s)	0.5		2.4		678.3							
Approach LOS					F							
Intersection Summary												
Average Delay			26.2									
Intersection Capacity Utilization			78.6%		ICU Level of Service				D			
Analysis Period (min)			15									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	10	10	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		75	0		0	0		75	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50				
Trailing Detector (ft)	0	0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1509			808			774	
Travel Time (s)		14.7			34.3			18.4			17.6	
Volume (vph)	31	867	301	185	521	33	187	81	256	0	0	0
Lane Group Flow (vph)	0	1062	363	0	824	0	0	724	0	0	0	0
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Detector Phases	6	6	6	5	2		4	4				
Minimum Initial (s)	6.0	6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)	20.0	20.0	20.0	4.0	20.0		20.0	20.0				
Total Split (s)	33.0	33.0	33.0	4.0	37.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0
Total Split (%)	41.3%	41.3%	41.3%	5.0%	46.3%	0.0%	26.3%	26.3%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0	3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	Max	Max		Max	Max				
v/c Ratio		1.02	0.81		2.55dl			1.90				
Control Delay		60.9	39.9		130.8			436.3				
Queue Delay		0.0	0.0		0.0			0.0				
Total Delay		60.9	39.9		130.8			436.3				
Queue Length 50th (ft)		~287	161		~267			~563				
Queue Length 95th (ft)		#383	#267		#381			#564				
Internal Link Dist (ft)		567			1429			728			694	
Turn Bay Length (ft)			75									
Base Capacity (vph)		1039	447		684			382				
Starvation Cap Reductn		0	0		0			0				
Spillback Cap Reductn		0	0		0			0				
Storage Cap Reductn		0	0		0			0				
Reduced v/c Ratio		1.02	0.81		1.20			1.90				

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	13.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	28%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















dl Defacto Left Lane. Recode with 1 though lane as a left lane.

















Splits and Phases: 4: Mass. Ave. & Lake St./Winter St.

← ø2	↑ ø4	ø9
37 s	21 s	22 s
↙ ↘ ø6 4 33 s		

Mass. Ave. - Arlington
4: Mass. Ave. & Lake St./Winter St.

HCM Signalized Intersection Capacity Analysis
Future (2028) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	10	10	12	12	12
Total Lost time (s)		4.0	4.0		4.0			4.0				
Lane Util. Factor		0.95	1.00		0.95			1.00				
Frpb, ped/bikes		1.00	0.93		1.00			0.98				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		0.99			0.93				
Flt Protected		1.00	1.00		0.99			0.98				
Satd. Flow (prot)		3219	1233		3095			1796				
Flt Permitted		0.89	1.00		0.53			0.98				
Satd. Flow (perm)		2868	1233		1657			1796				
Volume (vph)	31	867	301	185	521	33	187	81	256	0	0	0
Peak-hour factor, PHF	0.73	0.85	0.83	0.93	0.91	0.64	0.75	0.71	0.71	0.92	0.92	0.92
Adj. Flow (vph)	42	1020	363	199	573	52	249	114	361	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1062	363	0	824	0	0	724	0	0	0	0
Confl. Peds. (#/hr)	14		14	14		13	15		14	24		24
Confl. Bikes (#/hr)			33			20			1			
Heavy Vehicles (%)	0%	6%	3%	3%	6%	3%	4%	0%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		2	2		2	2						
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Actuated Green, G (s)		29.0	29.0		33.0			17.0				
Effective Green, g (s)		29.0	29.0		33.0			17.0				
Actuated g/C Ratio		0.36	0.36		0.41			0.21				
Clearance Time (s)		4.0	4.0		4.0			4.0				
Lane Grp Cap (vph)		1040	447		684			382				
v/s Ratio Prot												
v/s Ratio Perm		0.37	0.29		c0.50			0.40				
v/c Ratio		1.02	0.81		2.55dl			1.90				
Uniform Delay, d1		25.5	23.0		23.5			31.5				
Progression Factor		1.00	1.00		1.00			1.00				
Incremental Delay, d2		33.4	14.8		105.6			412.6				
Delay (s)		58.9	37.8		129.1			444.1				
Level of Service		E	D		F			F				
Approach Delay (s)		53.5			129.1			444.1			0.0	
Approach LOS		D			F			F			A	
Intersection Summary												
HCM Average Control Delay			169.6			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.44									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			89.3%			ICU Level of Service			E			
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	9	1003	0	0	693	4	30	2	25	7	0	23
Lane Group Flow (vph)	0	1198	0	0	722	0	0	87	0	0	49	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	20.0	20.0			20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.0	24.0			24.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	0.0	50.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	66.7%	66.7%	0.0%	0.0%	66.7%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.51			0.29			0.54			0.31	
Control Delay		5.2			3.6			32.1			20.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.2			3.6			32.1			20.4	
Queue Length 50th (ft)		58			27			18			5	
Queue Length 95th (ft)		205			108			6			38	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2371			2514			162			156	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.51			0.29			0.54			0.31	
Intersection Summary												
Area Type:	Other											
Cycle Length:	75											
Actuated Cycle Length:	75											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											

















Splits and Phases: 5: Mass. Ave. & Thorndike St./Teel St.

← ø2		↑ ø4	ø9
50 s		10 s	15 s
→ ø6		↓ ø8	
50 s		10 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	15.0
Total Split (s)	15.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	





















Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

HCM Signalized Intersection Capacity Analysis
Future (2028) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.95	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		1.00			1.00			0.95			0.90	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		3218			3212			1674			1590	
Flt Permitted		0.94			1.00			0.89			0.89	
Satd. Flow (perm)		3032			3212			1535			1438	
Volume (vph)	9	1003	0	0	693	4	30	2	25	7	0	23
Peak-hour factor, PHF	0.50	0.85	0.92	0.92	0.97	0.50	0.68	0.25	0.72	0.50	0.92	0.66
Adj. Flow (vph)	18	1180	0	0	714	8	44	8	35	14	0	35
RTOR Reduction (vph)	0	0	0	0	1	0	0	32	0	0	32	0
Lane Group Flow (vph)	0	1198	0	0	721	0	0	55	0	0	17	0
Confl. Peds. (#/hr)	3		3				5		5	15		14
Confl. Bikes (#/hr)			51			9			3			1
Heavy Vehicles (%)	0%	4%	2%	2%	4%	25%	4%	0%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		58.2			58.2			5.7			5.7	
Effective Green, g (s)		58.2			58.2			5.7			5.7	
Actuated g/C Ratio		0.75			0.75			0.07			0.07	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2283			2418			113			106	
v/s Ratio Prot					0.22							
v/s Ratio Perm		c0.40						c0.04			0.01	
v/c Ratio		0.52			0.30			0.48			0.16	
Uniform Delay, d1		3.9			3.0			34.4			33.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			0.3			3.2			0.7	
Delay (s)		4.8			3.4			37.6			34.2	
Level of Service		A			A			D			C	
Approach Delay (s)		4.8			3.4			37.6			34.2	
Approach LOS		A			A			D			C	
Intersection Summary												
HCM Average Control Delay		6.4			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.52										
Actuated Cycle Length (s)		77.3			Sum of lost time (s)			13.4				
Intersection Capacity Utilization		48.8%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Future (2028) No-Build AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	929			689			656			574		
Travel Time (s)	21.1			15.7			14.9			13.0		
Volume (vph)	128	767	160	283	516	47	83	507	299	114	1153	32
Lane Group Flow (vph)	186	1001	0	308	654	0	98	936	0	131	1311	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	15.0	38.0	0.0	18.0	41.0	0.0	17.0	41.0	0.0	17.0	41.0	0.0
Total Split (%)	13.2%	33.3%	0.0%	15.8%	36.0%	0.0%	14.9%	36.0%	0.0%	14.9%	36.0%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
v/c Ratio	1.07	1.02		1.45	0.59		0.55	0.87		0.66	1.14	
Control Delay	137.0	73.9		261.9	34.8		60.0	46.3		64.7	108.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	137.0	73.9		261.9	34.8		60.0	46.3		64.7	108.5	
Queue Length 50th (ft)	~151	~410		~308	210		69	338		93	~590	
Queue Length 95th (ft)	#196	#541		#484	260		119	371		#162	#727	
Internal Link Dist (ft)	849			609			576			494		
Turn Bay Length (ft)	75											
Base Capacity (vph)	174	981		213	1110		179	1077		200	1154	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.07	1.02		1.45	0.59		0.55	0.87		0.66	1.14	

Intersection Summary

Area Type: Other
Cycle Length: 114
Actuated Cycle Length: 114
Offset: 24 (21%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 130

Mass. Ave. - Arlington
 6: Mass. Ave. & Alewife Brook Pkwy.

Timings
 Future (2028) No-Build AM Peak

Control Type: Pretimed








~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

















Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.

 ø1	 ø2	 ø3	 ø4
15 s	41 s	17 s	41 s
 ø5	 ø6	 ø7	 ø8
18 s	38 s	17 s	41 s

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Future (2028) No-Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3287		1736	3420		1570	3318		1752	3555	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	3287		1736	3420		1570	3318		1752	3555	
Volume (vph)	128	767	160	283	516	47	83	507	299	114	1153	32
Peak-hour factor, PHF	0.69	0.93	0.91	0.92	0.87	0.77	0.85	0.82	0.94	0.87	0.91	0.73
Adj. Flow (vph)	186	825	176	308	593	61	98	618	318	131	1267	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	1001	0	308	654	0	98	936	0	131	1311	0
Confl. Peds. (#/hr)	27		28	4		4	1		1	3		3
Confl. Bikes (#/hr)			47			10			3			1
Heavy Vehicles (%)	0%	5%	5%	4%	4%	2%	15%	1%	6%	3%	1%	0%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	11.0	34.0		14.0	37.0		13.0	37.0		13.0	37.0	
Effective Green, g (s)	11.0	34.0		14.0	37.0		13.0	37.0		13.0	37.0	
Actuated g/C Ratio	0.10	0.30		0.12	0.32		0.11	0.32		0.11	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	174	980		213	1110		179	1077		200	1154	
v/s Ratio Prot	0.10	c0.30		c0.18	c0.19		0.06	0.28		c0.07	c0.37	
v/s Ratio Perm												
v/c Ratio	1.07	1.02		1.45	0.59		0.55	0.87		0.66	1.14	
Uniform Delay, d1	51.5	40.0		50.0	32.2		47.7	36.2		48.4	38.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	87.7	34.3		225.1	2.3		11.5	9.5		15.5	72.3	
Delay (s)	139.2	74.3		275.1	34.5		59.2	45.8		63.9	110.8	
Level of Service	F	E		F	C		E	D		E	F	
Approach Delay (s)		84.5			111.5			47.0			106.5	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM Average Control Delay			88.6			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			114.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			93.3%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	865	32	13	857	0	24	0	19	45	10	21
Lane Group Flow (vph)	0	1001	0	0	985	0	0	66	0	0	132	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			8	
Permitted Phases				2			4			8		
Detector Phases		6		2	2		4	4		8	8	
Minimum Initial (s)		6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Total Split (s)	0.0	48.0	0.0	48.0	48.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	60.8%	0.0%	60.8%	60.8%	0.0%	15.2%	15.2%	0.0%	15.2%	15.2%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		Max		Max	Max		None	None		None	None	
v/c Ratio		0.43			0.46			0.37			0.68	
Control Delay		5.9			6.3			24.2			43.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.9			6.3			24.2			43.1	
Queue Length 50th (ft)		52			53			12			37	
Queue Length 95th (ft)		205			208			54			60	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)												
Base Capacity (vph)		2314			2149			181			197	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.43			0.46			0.36			0.67	
Intersection Summary												
Area Type:	Other											
Cycle Length:	79											
Actuated Cycle Length:	68.8											
Natural Cycle:	60											
Control Type:	Semi Act-Uncoord											

















Splits and Phases: 1: Mass. Ave. & Linwood St./Foster St.

← ø2	↑ ø4	ø9
48 s	12 s	19 s
→ ø6	↓ ø8	
48 s	12 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	24%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

















Mass. Ave. - Arlington
1: Mass. Ave. & Linwood St./Foster St.

HCM Signalized Intersection Capacity Analysis
Future (2028) No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			0.99			0.98	
Frt		0.99			1.00			0.94			0.95	
Flt Protected		1.00			1.00			0.97			0.97	
Satd. Flow (prot)		3227			3255			1696			1691	
Flt Permitted		1.00			0.92			0.76			0.86	
Satd. Flow (perm)		3227			3011			1327			1490	
Volume (vph)	0	865	32	13	857	0	24	0	19	45	10	21
Peak-hour factor, PHF	0.92	0.90	0.81	0.60	0.89	0.92	0.69	0.92	0.61	0.64	0.56	0.48
Adj. Flow (vph)	0	961	40	22	963	0	35	0	31	70	18	44
RTOR Reduction (vph)	0	2	0	0	0	0	0	28	0	0	22	0
Lane Group Flow (vph)	0	999	0	0	985	0	0	38	0	0	110	0
Confl. Peds. (#/hr)	2		1	5		5	7		7	14		14
Confl. Bikes (#/hr)			8			17			2			1
Heavy Vehicles (%)	2%	3%	3%	0%	3%	2%	0%	2%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type		Perm				Perm				Perm		
Protected Phases		6			2			4			8	
Permitted Phases			2			4			8			
Actuated Green, G (s)		49.3			49.3			8.0			8.0	
Effective Green, g (s)		49.3			49.3			8.0			8.0	
Actuated g/C Ratio		0.69			0.69			0.11			0.11	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2238			2088			149			168	
v/s Ratio Prot		0.31										
v/s Ratio Perm					c0.33			0.03			c0.07	
v/c Ratio		0.45			0.47			0.26			0.65	
Uniform Delay, d1		4.8			5.0			28.8			30.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.8			0.9			8.8	
Delay (s)		5.5			5.7			29.8			39.0	
Level of Service		A			A			C			D	
Approach Delay (s)		5.5			5.7			29.8			39.0	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM Average Control Delay		8.4			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.50										
Actuated Cycle Length (s)		71.1			Sum of lost time (s)			13.8				
Intersection Capacity Utilization		48.1%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												
















Mass. Ave. - Arlington
2: Mass. Ave. & Marion Rd./Bates Rd.

















HCM Unsignalized Intersection Capacity Analysis
Future (2028) No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	53	824	7	8	780	161	7	9	13	123	4	116
Peak Hour Factor	0.71	0.88	0.38	0.58	0.93	0.96	0.50	0.67	0.75	0.85	0.33	0.88
Hourly flow rate (vph)	75	936	18	14	839	168	14	13	17	145	12	132
Pedestrians								10			10	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		452										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	1016			965			1690	2149	487	1602	2074	513
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1016			841			1653	2167	306	1554	2083	513
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	7.0	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.2	3.3
p0 queue free %	89			98			48	63	97	0	60	74
cM capacity (veh/h)	685			711			27	37	616	43	30	507
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	543	487	433	587	45	289						
Volume Left	75	0	14	0	14	145						
Volume Right	0	18	0	168	17	132						
cSH	685	1700	711	1700	49	72						
Volume to Capacity	0.11	0.29	0.02	0.35	0.92	4.00						
Queue Length 95th (ft)	9	0	1	0	96	Err						
Control Delay (s)	2.9	0.0	0.6	0.0	235.3	Err						
Lane LOS	A		A		F	F						
Approach Delay (s)	1.5		0.2		235.3	Err						
Approach LOS					F	F						
Intersection Summary												
Average Delay		1216.3										
Intersection Capacity Utilization		82.4%		ICU Level of Service				E				
Analysis Period (min)		15										

Mass. Ave. - Arlington
3: Mass. Ave. & Orvis Rd./Grafton St.

HCM Unsignalized Intersection Capacity Analysis
Future (2028) No-Build PM Peak

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Volume (veh/h)	18	783	173	43	921	35	65	12	18	0	0	0	
Peak Hour Factor	0.67	0.86	0.96	0.70	0.96	0.73	0.87	0.60	0.80	0.92	0.92	0.92	
Hourly flow rate (vph)	27	910	180	61	959	48	75	20	22	0	0	0	
Pedestrians	1			1			13			13			
Lane Width (ft)	12.0			12.0			12.0			0.0			
Walking Speed (ft/s)	4.0			4.0			4.0			4.0			
Percent Blockage	0			0			1			0			
Right turn flare (veh)													
Median type							None			None			
Median storage veh													
Upstream signal (ft)	1192			647									
pX, platoon unblocked	0.85							0.85	0.85	0.85	0.85	0.85	
vC, conflicting volume	1020				1104			1671	2210	559	1662	2277	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	852				1104			1614	2247	559	1603	2324	
tC, single (s)	4.1				4.2			7.5	6.7	6.9	7.5	6.5	
tC, 2 stage (s)													
tF (s)	2.2				2.2			3.5	4.1	3.3	3.5	4.0	
p0 queue free %	96				90			0	28	95	100	100	
cM capacity (veh/h)	679				616			52	28	472	22	27	
												627	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1								
Volume Total	482	635	541	528	117								
Volume Left	27	0	61	0	75								
Volume Right	0	180	0	48	22								
cSH	679	1700	616	1700	53								
Volume to Capacity	0.04	0.37	0.10	0.31	2.21								
Queue Length 95th (ft)	3	0	8	0	294								
Control Delay (s)	1.1	0.0	2.7	0.0	719.5								
Lane LOS	A	A			F								
Approach Delay (s)	0.5	1.4			719.5								
Approach LOS						F							
Intersection Summary													
Average Delay				37.5									
Intersection Capacity Utilization				77.1%	ICU Level of Service				D				
Analysis Period (min)				15									

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	10	10	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		75	0		0	0		75	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50		50	50				
Trailing Detector (ft)	0	0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1509			808			774	
Travel Time (s)		14.7			34.3			18.4			17.6	
Volume (vph)	0	651	116	191	682	2	247	80	228	0	0	0
Lane Group Flow (vph)	0	775	136	0	953	0	0	656	0	0	0	0
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Detector Phases	6	6	6	5	2		4	4				
Minimum Initial (s)	6.0	6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)	20.0	20.0	20.0	4.0	20.0		20.0	20.0				
Total Split (s)	33.0	33.0	33.0	4.0	37.0	0.0	21.0	21.0	0.0	0.0	0.0	0.0
Total Split (%)	41.3%	41.3%	41.3%	5.0%	46.3%	0.0%	26.3%	26.3%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)	3.0	3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)	1.0	1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Max	Max	Max	Max	Max		Max	Max				
v/c Ratio		0.65	0.29		1.73dl			1.68				
Control Delay		24.3	20.3		172.8			343.5				
Queue Delay		0.0	0.0		0.0			0.0				
Total Delay		24.3	20.3		172.8			343.5				
Queue Length 50th (ft)		166	47		~327			~487				
Queue Length 95th (ft)		206	85		#445			#578				
Internal Link Dist (ft)		567			1429			728			694	
Turn Bay Length (ft)			75									
Base Capacity (vph)		1201	471		729			390				
Starvation Cap Reductn		0	0		0			0				
Spillback Cap Reductn		0	0		0			0				
Storage Cap Reductn		0	0		0			0				
Reduced v/c Ratio		0.65	0.29		1.31			1.68				

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	13.0
Minimum Split (s)	22.0
Total Split (s)	22.0
Total Split (%)	28%
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	Max
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Control Type: Pretimed

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

















Splits and Phases: 4: Mass. Ave. & Lake St./Winter St.

← ø2	↑ ø4	ø9
37 s	21 s	22 s
↙ ↘ ø6 4 33 s		

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	10	10	12	12	12
Total Lost time (s)		4.0	4.0		4.0			4.0				
Lane Util. Factor		0.95	1.00		0.95			1.00				
Frpb, ped/bikes		1.00	0.96		1.00			0.98				
Flpb, ped/bikes		1.00	1.00		1.00			0.99				
Frt		1.00	0.85		1.00			0.94				
Flt Protected		1.00	1.00		0.99			0.98				
Satd. Flow (prot)		3312	1298		3227			1834				
Flt Permitted		1.00	1.00		0.54			0.98				
Satd. Flow (perm)		3312	1298		1767			1834				
Volume (vph)	0	651	116	191	682	2	247	80	228	0	0	0
Peak-hour factor, PHF	0.63	0.84	0.85	0.84	0.95	0.25	0.97	0.79	0.76	0.92	0.92	0.92
Adj. Flow (vph)	0	775	136	227	718	8	255	101	300	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	775	136	0	953	0	0	656	0	0	0	0
Confl. Peds. (#/hr)	10		10	6		6	16		17	15		15
Confl. Bikes (#/hr)			8			19						
Heavy Vehicles (%)	0%	3%	1%	1%	3%	0%	0%	0%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		2	2		0	0						
Turn Type	Perm		Perm	pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases	6		6	2			4					
Actuated Green, G (s)		29.0	29.0		33.0			17.0				
Effective Green, g (s)		29.0	29.0		33.0			17.0				
Actuated g/C Ratio		0.36	0.36		0.41			0.21				
Clearance Time (s)		4.0	4.0		4.0			4.0				
Lane Grp Cap (vph)		1201	471		729			390				
v/s Ratio Prot		0.23										
v/s Ratio Perm			0.10		c0.54			0.36				
v/c Ratio		0.65	0.29		1.73dl			1.68				
Uniform Delay, d1		21.2	18.2		23.5			31.5				
Progression Factor		1.00	1.00		1.00			1.00				
Incremental Delay, d2		2.7	1.5		148.1			317.9				
Delay (s)		23.9	19.7		171.6			349.4				
Level of Service		C	B		F			F				
Approach Delay (s)		23.3			171.6			349.4			0.0	
Approach LOS		C			F			F			A	
Intersection Summary												
HCM Average Control Delay			164.3			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.44									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			30.0			
Intersection Capacity Utilization			87.3%			ICU Level of Service			E			
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

Timings
Future (2028) No-Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	13	716	0	0	928	8	33	3	21	0	0	13
Lane Group Flow (vph)	0	804	0	0	1010	0	0	75	0	0	26	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	20.0	20.0			20.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.0	24.0			24.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	0.0	50.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	66.7%	66.7%	0.0%	0.0%	66.7%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.32			0.37			0.53			0.06	
Control Delay		3.5			3.7			34.6			0.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.5			3.7			34.6			0.3	
Queue Length 50th (ft)		32			43			17			0	
Queue Length 95th (ft)		128			165			49			0	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2503			2722			142			429	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.32			0.37			0.53			0.06	
Intersection Summary												
Area Type:	Other											
Cycle Length:	75											
Actuated Cycle Length:	74.9											
Natural Cycle:	50											
Control Type:	Semi Act-Uncoord											





















Splits and Phases: 5: Mass. Ave. & Thorndike St./Teel St.

← ø2		↑ ø4	ø9
50 s		10 s	15 s
→ ø6		↓ ø8	
50 s		10 s	

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	15.0
Total Split (s)	15.0
Total Split (%)	20%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	





















Mass. Ave. - Arlington
5: Mass. Ave. & Thorndike St./Teel St.

HCM Signalized Intersection Capacity Analysis
Future (2028) No-Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.95	
Flpb, ped/bikes		1.00			1.00			0.98			1.00	
Frt		1.00			1.00			0.95			0.86	
Flt Protected		1.00			1.00			0.97			1.00	
Satd. Flow (prot)		3248			3282			1684			1561	
Flt Permitted		0.93			1.00			0.80			1.00	
Satd. Flow (perm)		3019			3282			1394			1561	
Volume (vph)	13	716	0	0	928	8	33	3	21	0	0	13
Peak-hour factor, PHF	0.75	0.91	0.92	0.92	0.93	0.67	0.75	0.75	0.79	0.92	0.92	0.50
Adj. Flow (vph)	17	787	0	0	998	12	44	4	27	0	0	26
RTOR Reduction (vph)	0	0	0	0	1	0	0	26	0	0	25	0
Lane Group Flow (vph)	0	804	0	0	1009	0	0	49	0	0	1	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Confl. Bikes (#/hr)			6			32			1			
Heavy Vehicles (%)	0%	3%	2%	2%	2%	0%	0%	0%	0%	2%	2%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		60.6			60.6			4.2			4.2	
Effective Green, g (s)		60.6			60.6			4.2			4.2	
Actuated g/C Ratio		0.77			0.77			0.05			0.05	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2340			2543			75			84	
v/s Ratio Prot					c0.31						0.00	
v/s Ratio Perm		0.27						c0.04				
v/c Ratio		0.34			0.40			0.66			0.02	
Uniform Delay, d1		2.7			2.9			36.3			35.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.5			19.0			0.1	
Delay (s)		3.1			3.3			55.3			35.1	
Level of Service		A			A			E			D	
Approach Delay (s)		3.1			3.3			55.3			35.1	
Approach LOS		A			A			E			D	
Intersection Summary												
HCM Average Control Delay		5.7			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		78.2			Sum of lost time (s)			13.4				
Intersection Capacity Utilization		46.6%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Future (2028) No-Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	929			689			656			574		
Travel Time (s)	21.1			15.7			14.9			13.0		
Volume (vph)	118	531	98	312	579	88	173	827	288	96	677	113
Lane Group Flow (vph)	123	705	0	335	737	0	199	1242	0	128	918	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.0	20.0		10.0	20.0		10.0	20.0		10.0	20.0	
Total Split (s)	14.0	31.0	0.0	20.0	37.0	0.0	17.0	46.0	0.0	17.0	46.0	0.0
Total Split (%)	12.3%	27.2%	0.0%	17.5%	32.5%	0.0%	14.9%	40.4%	0.0%	14.9%	40.4%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
v/c Ratio	0.78	0.89		1.36	0.75		1.03	0.99		0.63	0.72	
Control Delay	82.4	56.4		225.0	42.3		121.7	59.1		62.7	34.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	82.4	56.4		225.0	42.3		121.7	59.1		62.7	34.7	
Queue Length 50th (ft)	90	264		~324	257		~156	471		91	301	
Queue Length 95th (ft)	#189	#368		#506	330		#289	#630		128	358	
Internal Link Dist (ft)	849			609			576			494		
Turn Bay Length (ft)	75											
Base Capacity (vph)	158	795		246	985		194	1256		204	1283	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.78	0.89		1.36	0.75		1.03	0.99		0.63	0.72	

Intersection Summary

Area Type: Other
 Cycle Length: 114
 Actuated Cycle Length: 114
 Offset: 28 (25%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 110

Mass. Ave. - Arlington
 6: Mass. Ave. & Alewife Brook Pkwy.

Timings
 Future (2028) No-Build PM Peak

Control Type: Pretimed

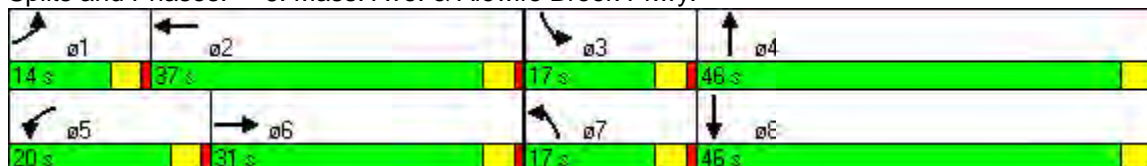
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.



Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Future (2028) No-Build PM Peak


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3356		1752	3402		1703	3407		1787	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	3356		1752	3402		1703	3407		1787	3484	
Volume (vph)	118	531	98	312	579	88	173	827	288	96	677	113
Peak-hour factor, PHF	0.96	0.94	0.70	0.93	0.93	0.77	0.87	0.92	0.84	0.75	0.87	0.81
Adj. Flow (vph)	123	565	140	335	623	114	199	899	343	128	778	140
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	123	705	0	335	737	0	199	1242	0	128	918	0
Confl. Peds. (#/hr)	14		13	13		12	5		4	1		2
Confl. Bikes (#/hr)			8			30						
Heavy Vehicles (%)	0%	3%	5%	3%	3%	1%	6%	1%	1%	1%	1%	1%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	10.0	27.0		16.0	33.0		13.0	42.0		13.0	42.0	
Effective Green, g (s)	10.0	27.0		16.0	33.0		13.0	42.0		13.0	42.0	
Actuated g/C Ratio	0.09	0.24		0.14	0.29		0.11	0.37		0.11	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	158	795		246	985		194	1255		204	1284	
v/s Ratio Prot	0.07	c0.21		c0.19	0.22		c0.12	c0.36		0.07	0.26	
v/s Ratio Perm												
v/c Ratio	0.78	0.89		1.36	0.75		1.03	0.99		0.63	0.71	
Uniform Delay, d1	50.9	42.0		49.0	36.7		50.5	35.8		48.2	30.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	30.6	13.9		186.8	5.2		71.5	23.0		13.7	3.4	
Delay (s)	81.5	56.0		235.8	41.9		122.0	58.8		61.9	34.3	
Level of Service	F	E		F	D		F	E		E	C	
Approach Delay (s)		59.8			102.5			67.6			37.7	
Approach LOS		E			F			E			D	
Intersection Summary												
HCM Average Control Delay			67.5			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			114.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			86.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

CAPACITY ANALYSIS

2018 Build

Mass. Ave. - Arlington
1: Mass. Ave. & Foster St.

Timings
Future (2018) Build AM AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	918	29	18	688	0	20	0	20	55	18	13
Lane Group Flow (vph)	0	1214	0	34	782	0	0	76	0	0	111	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			4	
Permitted Phases				2			4			4		
Detector Phases		6		2	2		4	4		4	4	
Minimum Initial (s)		50.0		50.0	50.0		1.0	1.0		1.0	1.0	
Minimum Split (s)		54.0		54.0	54.0		6.0	6.0		6.0	6.0	
Total Split (s)	0.0	70.0	0.0	70.0	70.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0
Total Split (%)	0.0%	70.0%	0.0%	70.0%	70.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max		C-Max	C-Max		None	None		None	None	
v/c Ratio		0.97		0.38	0.62			0.46			0.93	
Control Delay		31.5		19.6	7.1			30.1			109.6	
Queue Delay		52.2		0.0	0.0			0.2			1.6	
Total Delay		83.7		19.6	7.1			30.3			111.1	
Queue Length 50th (ft)		410		2	53			18			65	
Queue Length 95th (ft)		#934		m8	224			63			#160	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)				50								
Base Capacity (vph)		1250		89	1265			165			119	
Starvation Cap Reductn		0		0	18			0			0	
Spillback Cap Reductn		172		0	0			5			1	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		1.13		0.38	0.63			0.47			0.94	
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	82 (82%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green											
Natural Cycle:	150											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	17%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
 1: Mass. Ave. & Foster St.

Timings
 Future (2018) Build AM AM Peak

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Mass. Ave. & Foster St.

← ø2	↑↓ ø4	ø9
70 s	13 s	17 s
→ ø6		
70 s		



















Mass. Ave. - Arlington
1: Mass. Ave. & Foster St.

HCM Signalized Intersection Capacity Analysis
Future (2018) Build AM AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.98			0.97	
Flpb, ped/bikes		1.00		1.00	1.00			0.99			0.98	
Frt		1.00		1.00	1.00			0.92			0.97	
Flt Protected		1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)		1569		1745	1589			1606			1574	
Flt Permitted		1.00		0.11	1.00			0.83			0.75	
Satd. Flow (perm)		1569		199	1589			1361			1222	
Volume (vph)	0	918	29	18	688	0	20	0	20	55	18	13
Peak-hour factor, PHF	0.92	0.78	0.78	0.53	0.88	0.92	0.68	0.92	0.43	0.81	0.85	0.60
Adj. Flow (vph)	0	1177	37	34	782	0	29	0	47	68	21	22
RTOR Reduction (vph)	0	1	0	0	0	0	0	43	0	0	9	0
Lane Group Flow (vph)	0	1213	0	34	782	0	0	33	0	0	102	0
Confl. Peds. (#/hr)	2			2			6		6	16		17
Confl. Bikes (#/hr)			27			10			1			8
Heavy Vehicles (%)	2%	5%	0%	0%	4%	2%	0%	2%	0%	2%	0%	17%
Parking (#/hr)		0	0		0	0						
Turn Type				Perm			Perm			Perm		
Protected Phases		6			2			4			4	
Permitted Phases				2			4			4		
Actuated Green, G (s)		77.2		77.2	77.2			9.0			9.0	
Effective Green, g (s)		77.2		77.2	77.2			9.0			9.0	
Actuated g/C Ratio		0.77		0.77	0.77			0.09			0.09	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1211		154	1227			122			110	
v/s Ratio Prot		c0.77			0.49							
v/s Ratio Perm				0.17				0.02			c0.08	
v/c Ratio		1.00		0.22	0.64			0.27			0.93	
Uniform Delay, d1		11.4		3.1	5.1			42.4			45.2	
Progression Factor		1.00		1.05	0.89			1.00			1.00	
Incremental Delay, d2		26.3		2.5	1.9			1.2			62.3	
Delay (s)		37.7		5.8	6.5			43.7			107.5	
Level of Service		D		A	A			D			F	
Approach Delay (s)		37.7			6.4			43.7			107.5	
Approach LOS		D			A			D			F	
Intersection Summary												
HCM Average Control Delay			29.9			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			66.4%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd.

Timings
Future (2018) Build AM AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	80		0
Storage Lanes	0		0	0		1	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			740			487			680	
Travel Time (s)		10.3			16.8			11.1			15.5	
Volume (vph)	45	910	7	2	636	62	4	3	8	258	1	107
Lane Group Flow (vph)	0	1225	0	0	739	89	0	28	0	300	130	0
Turn Type	Perm			Perm		pm+ov	Split			Split		
Protected Phases		6			2	8	4	4		8	8	
Permitted Phases	6			2		2						
Detector Phases	6	6		2	2	8	4	4		8	8	
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	4.0	4.0		6.0	6.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	10.0	8.0	8.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	50.0	50.0	23.0	10.0	10.0	0.0	23.0	23.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	23.0%	10.0%	10.0%	0.0%	23.0%	23.0%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		C-Min	C-Min	None	None	None		None	None	
v/c Ratio		0.94			0.70	0.08		0.25		0.89	0.32	
Control Delay		22.4			19.9	0.8		36.5		68.7	9.4	
Queue Delay		4.7			0.0	0.0		0.0		0.0	0.0	
Total Delay		27.1			19.9	0.8		36.5		68.7	9.4	
Queue Length 50th (ft)		327			287	0		10		188	2	
Queue Length 95th (ft)		#548			#660	4		11		#316	0	
Internal Link Dist (ft)		372			660			407			600	
Turn Bay Length (ft)										80		
Base Capacity (vph)		1298			1054	1068		117		345	409	
Starvation Cap Reductn		51			0	0		0		0	0	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.98			0.70	0.08		0.24		0.87	0.32	
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of 1st Green, Master Intersection											
Natural Cycle:	110											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	17%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	






Mass. Ave. - Arlington
 2: Mass. Ave. & Bates Rd.

Timings
 Future (2018) Build AM AM Peak

Control Type: Actuated-Coordinated



















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Mass. Ave. & Bates Rd.

 ø2	 ø4	 ø8	 ø9
50 s	10 s	23 s	17 s
 ø6			
50 s			

















Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd.

HCM Signalized Intersection Capacity Analysis
Future (2018) Build AM AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	13	10	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.98		1.00		1.00	0.97	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		1.00			1.00	0.85		0.94		1.00	0.85	
Flt Protected		1.00			1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)		3209			1683	1269		1765		1770	1576	
Flt Permitted		0.77			0.99	1.00		0.99		0.95	1.00	
Satd. Flow (perm)		2482			1660	1269		1765		1770	1576	
Volume (vph)	45	910	7	2	636	62	4	3	8	258	1	107
Peak-hour factor, PHF	0.67	0.80	0.35	0.25	0.87	0.70	0.50	0.38	0.67	0.86	0.25	0.85
Adj. Flow (vph)	67	1138	20	8	731	89	8	8	12	300	4	126
RTOR Reduction (vph)	0	1	0	0	0	19	0	12	0	0	102	0
Lane Group Flow (vph)	0	1224	0	0	739	70	0	16	0	300	28	0
Confl. Peds. (#/hr)	1									4		4
Confl. Bikes (#/hr)			25			18						
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	12	12	0	0	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm		pm+ov	Split			Split		
Protected Phases		6			2	8	4	4		8	8	
Permitted Phases	6			2		2						
Actuated Green, G (s)		59.6			59.6	78.6		3.6		19.0	19.0	
Effective Green, g (s)		59.6			59.6	78.6		3.6		19.0	19.0	
Actuated g/C Ratio		0.60			0.60	0.79		0.04		0.19	0.19	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1479			989	997		64		336	299	
v/s Ratio Prot						0.01		c0.01		c0.17	0.02	
v/s Ratio Perm		c0.49			0.45	0.04						
v/c Ratio		0.83			0.75	0.07		0.26		0.89	0.09	
Uniform Delay, d1		16.1			14.7	2.4		46.9		39.5	33.4	
Progression Factor		0.74			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.8			5.1	0.0		2.1		24.4	0.1	
Delay (s)		13.8			19.9	2.5		49.0		63.9	33.5	
Level of Service		B			B	A		D		E	C	
Approach Delay (s)		13.8			18.0			49.0			54.7	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM Average Control Delay		22.6			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			17.8				
Intersection Capacity Utilization		86.3%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												













Mass. Ave. - Arlington
3: Mass. Ave. & Grafton St

HCM Unsignalized Intersection Capacity Analysis
Future (2018) Build AM AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	1025	197	56	621	35	34	5	24	0	0	0
Peak Hour Factor	0.56	0.85	0.74	0.95	0.89	0.83	0.67	0.42	0.96	0.92	0.92	0.92
Hourly flow rate (vph)	34	1206	266	59	698	42	51	12	25	0	0	0
Pedestrians		2			3			12			12	
Lane Width (ft)		12.0			13.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		740			647							
pX, platoon unblocked	0.74			0.83			0.82	0.82	0.83	0.82	0.82	0.74
vC, conflicting volume	752			1484			2124	2156	618	1553	2401	733
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	663			1381			1863	1901	341	1167	2200	637
tC, single (s)	4.1			4.1			7.5	6.9	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.2	3.3	3.5	4.0	3.3
p0 queue free %	95			85			0	68	95	100	100	100
cM capacity (veh/h)	689			406			32	37	534	75	29	309
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1							
Volume Total	436	804	266	799	88							
Volume Left	34	0	0	59	51							
Volume Right	0	0	266	42	25							
cSH	689	1700	1700	406	44							
Volume to Capacity	0.05	0.47	0.16	0.15	1.98							
Queue Length 95th (ft)	4	0	0	13	226							
Control Delay (s)	1.4	0.0	0.0	4.8	652.8							
Lane LOS	A			A	F							
Approach Delay (s)	0.4			4.8	652.8							
Approach LOS					F							
Intersection Summary												
Average Delay			25.8									
Intersection Capacity Utilization			87.4%			ICU Level of Service			E			
Analysis Period (min)			15									

Mass. Ave. - Arlington
4: Mass. Ave. & Winter St

Timings
Future (2018) Build AM AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	11	10	11	11	12	12	10	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		75	120		0	0		75	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50				
Trailing Detector (ft)		0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1509			808			774	
Travel Time (s)		14.7			34.3			18.4			17.6	
Volume (vph)	0	858	288	177	533	0	257	0	245	0	0	0
Lane Group Flow (vph)	0	1009	347	190	586	0	0	688	0	0	0	0
Turn Type		Perm pm+pt					Perm					
Protected Phases		6		5	2			4				
Permitted Phases			6	2			4					
Detector Phases		6	6	5	2		4	4				
Minimum Initial (s)		6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)		22.0	22.0	10.0	22.0		22.0	22.0				
Total Split (s)	0.0	37.0	37.0	15.0	52.0	0.0	40.0	40.0	0.0	0.0	0.0	0.0
Total Split (%)	0.0%	33.6%	33.6%	13.6%	47.3%	0.0%	36.4%	36.4%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)		3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)		1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		Min	Min	None	Min		None	None				
v/c Ratio		0.93	0.87	0.73	0.76			1.02				
Control Delay		45.7	53.8	36.4	28.3			70.3				
Queue Delay		0.0	0.0	0.0	0.0			0.0				
Total Delay		45.7	53.8	36.4	28.3			70.3				
Queue Length 50th (ft)		289	184	57	250			391				
Queue Length 95th (ft)		#500	#387	#204	#584			#551				
Internal Link Dist (ft)		567			1429			728			694	
Turn Bay Length (ft)			75	120								
Base Capacity (vph)		1089	398	269	779			676				
Starvation Cap Reductn		0	0	0	0			0				
Spillback Cap Reductn		0	0	0	0			0				
Storage Cap Reductn		0	0	0	0			0				
Reduced v/c Ratio		0.93	0.87	0.71	0.75			1.02				

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 94.8

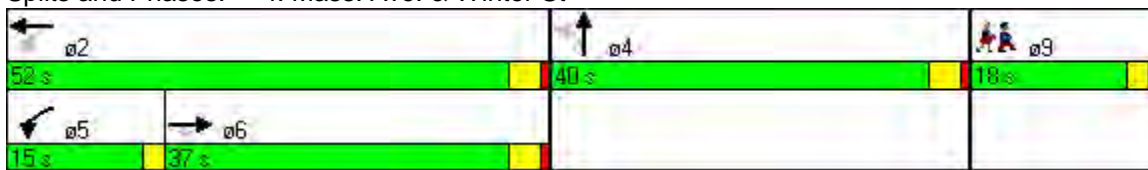
Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	18.0
Total Split (s)	18.0
Total Split (%)	16%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	













95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Mass. Ave. & Winter St






















Mass. Ave. - Arlington
4: Mass. Ave. & Winter St

HCM Signalized Intersection Capacity Analysis
Future (2018) Build AM AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	11	10	11	11	12	12	10	12	12	12	12
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0				
Lane Util. Factor		0.95	1.00	1.00	1.00			1.00				
Frpb, ped/bikes		1.00	0.92	1.00	1.00			0.99				
Flpb, ped/bikes		1.00	1.00	1.00	1.00			0.99				
Frt		1.00	0.85	1.00	1.00			0.93				
Flt Protected		1.00	1.00	0.95	1.00			0.98				
Satd. Flow (prot)		3111	1147	1694	1542			1774				
Flt Permitted		1.00	1.00	0.11	1.00			0.98				
Satd. Flow (perm)		3111	1147	192	1542			1774				
Volume (vph)	0	858	288	177	533	0	257	0	245	0	0	0
Peak-hour factor, PHF	0.73	0.85	0.83	0.93	0.91	0.64	0.75	0.71	0.71	0.92	0.92	0.92
Adj. Flow (vph)	0	1009	347	190	586	0	343	0	345	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1009	347	190	586	0	0	688	0	0	0	0
Confl. Peds. (#/hr)	14		14	13		14	15		14	24		24
Confl. Bikes (#/hr)			33			20			1			
Heavy Vehicles (%)	0%	6%	3%	3%	6%	3%	4%	0%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0	0	0	0	0	0	0
Parking (#/hr)		2	2		2	2						
Turn Type		Perm pm+pt					Perm					
Protected Phases		6		5	2				4			
Permitted Phases			6	2			4					
Actuated Green, G (s)		33.2	33.2	47.5	47.5			36.2				
Effective Green, g (s)		33.2	33.2	47.5	47.5			36.2				
Actuated g/C Ratio		0.34	0.34	0.49	0.49			0.37				
Clearance Time (s)		4.0	4.0	2.0	4.0			4.0				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		1062	391	253	753			660				
v/s Ratio Prot		c0.32		0.08	c0.38							
v/s Ratio Perm			0.30	0.29				0.39				
v/c Ratio		0.95	0.89	0.75	0.78			1.04				
Uniform Delay, d1		31.2	30.3	19.5	20.6			30.5				
Progression Factor		1.00	1.00	1.00	1.00			1.00				
Incremental Delay, d2		16.9	20.8	11.8	5.1			46.6				
Delay (s)		48.2	51.1	31.3	25.6			77.1				
Level of Service		D	D	C	C			E				
Approach Delay (s)		48.9			27.0			77.1			0.0	
Approach LOS		D			C			E			A	
Intersection Summary												
HCM Average Control Delay			49.8			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			97.3			Sum of lost time (s)			17.6			
Intersection Capacity Utilization			76.1%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
5: Mass. Ave. & Teel St

Timings
Future (2018) Build AM AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	8	959	0	0	662	4	28	2	24	6	0	22
Lane Group Flow (vph)	0	1144	0	0	690	0	0	82	0	0	45	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			4	
Permitted Phases	6						4			4		
Detector Phases	6	6			2		4	4		4	4	
Minimum Initial (s)	36.0	36.0			36.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	40.0	40.0			40.0		10.0	10.0		10.0	10.0	
Total Split (s)	43.0	43.0	0.0	0.0	43.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	61.4%	61.4%	0.0%	0.0%	61.4%	0.0%	14.3%	14.3%	0.0%	14.3%	14.3%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.52			0.61			0.50			0.27	
Control Delay		6.1			9.7			28.8			18.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.1			9.7			28.8			18.1	
Queue Length 50th (ft)		54			71			14			3	
Queue Length 95th (ft)		216			#440			6			34	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2212			1139			164			166	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.52			0.61			0.50			0.27	
Intersection Summary												
Area Type:	Other											
Cycle Length:	70											
Actuated Cycle Length:	69.8											
Natural Cycle:	70											
Control Type:	Semi Act-Uncoord											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	24%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Mass. Ave. & Teel St

← ø2	↑↓ ø4	↶ ø9
43 s	10 s	17 s
→ ø6		
43 s		





















Mass. Ave. - Arlington
5: Mass. Ave. & Teel St

HCM Signalized Intersection Capacity Analysis
Future (2018) Build AM AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.92	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		1.00			1.00			0.95			0.90	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		3111			1513			1669			1540	
Flt Permitted		0.94			1.00			0.85			0.92	
Satd. Flow (perm)		2941			1513			1446			1435	
Volume (vph)	8	959	0	0	662	4	28	2	24	6	0	22
Peak-hour factor, PHF	0.50	0.85	0.92	0.92	0.97	0.50	0.68	0.25	0.72	0.50	0.92	0.66
Adj. Flow (vph)	16	1128	0	0	682	8	41	8	33	12	0	33
RTOR Reduction (vph)	0	0	0	0	0	0	0	30	0	0	30	0
Lane Group Flow (vph)	0	1144	0	0	690	0	0	52	0	0	15	0
Confl. Peds. (#/hr)	3		3				5		5	15		14
Confl. Bikes (#/hr)			51			9			3			1
Heavy Vehicles (%)	0%	4%	2%	2%	4%	25%	4%	0%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)	0	0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			4	
Permitted Phases	6						4			4		
Actuated Green, G (s)		52.1			52.1			5.9			5.9	
Effective Green, g (s)		52.1			52.1			5.9			5.9	
Actuated g/C Ratio		0.73			0.73			0.08			0.08	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2134			1098			119			118	
v/s Ratio Prot					c0.46							
v/s Ratio Perm		0.39						c0.04			0.01	
v/c Ratio		0.54			0.63			0.43			0.12	
Uniform Delay, d1		4.4			5.0			31.4			30.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.0			2.7			2.5			0.5	
Delay (s)		5.4			7.7			33.9			31.0	
Level of Service		A			A			C			C	
Approach Delay (s)		5.4			7.7			33.9			31.0	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			8.0			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			71.8			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			49.6%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Future (2018) Build AM AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	175		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		929			689			656			574	
Travel Time (s)		21.1			15.7			14.9			13.0	
Volume (vph)	122	733	152	270	493	45	79	485	286	109	1102	30
Lane Group Flow (vph)	177	955	0	293	625	0	93	895	0	125	1252	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	24.0	40.0	0.0	24.0	40.0	0.0	11.0	43.0	0.0	13.0	45.0	0.0
Total Split (%)	20.0%	33.3%	0.0%	20.0%	33.3%	0.0%	9.2%	35.8%	0.0%	10.8%	37.5%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	Max		None	Max		None	None		None	None	
v/c Ratio	0.74	0.97		1.01	0.55		1.01	0.83		0.95	1.03	
Control Delay	68.3	63.8		106.3	35.9		153.2	45.3		122.9	73.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	68.3	63.8		106.3	35.9		153.2	45.3		122.9	73.3	
Queue Length 50th (ft)	133	383		~234	210		~75	336		98	~546	
Queue Length 95th (ft)	152	#523		#415	269		#173	367		#212	#684	
Internal Link Dist (ft)		849			609			576			494	
Turn Bay Length (ft)	175											
Base Capacity (vph)	283	986		289	1130		92	1078		131	1214	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.63	0.97		1.01	0.55		1.01	0.83		0.95	1.03	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 120





Control Type: Actuated-Uncoordinated

Mass. Ave. - Arlington
 6: Mass. Ave. & Alewife Brook Pkwy.

Timings
 Future (2018) Build AM AM Peak





















- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.

 ø1	 ø2	 ø3	 ø4
24 s	40 s	13 s	43 s
 ø5	 ø6	 ø7	 ø8
24 s	40 s	11 s	45 s


















Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Future (2018) Build AM AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	3286		1736	3420		1570	3318		1752	3554	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1745	3286		1736	3420		1570	3318		1752	3554	
Volume (vph)	122	733	152	270	493	45	79	485	286	109	1102	30
Peak-hour factor, PHF	0.69	0.93	0.91	0.92	0.87	0.77	0.85	0.82	0.94	0.87	0.91	0.73
Adj. Flow (vph)	177	788	167	293	567	58	93	591	304	125	1211	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	955	0	293	625	0	93	895	0	125	1252	0
Confl. Peds. (#/hr)	27		28	4		4	1		1	3		3
Confl. Bikes (#/hr)			47			10			3			1
Heavy Vehicles (%)	0%	5%	5%	4%	4%	2%	15%	1%	6%	3%	1%	0%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	16.4	36.0		20.0	39.6		7.0	39.0		9.0	41.0	
Effective Green, g (s)	16.4	36.0		20.0	39.6		7.0	39.0		9.0	41.0	
Actuated g/C Ratio	0.14	0.30		0.17	0.33		0.06	0.32		0.08	0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	238	986		289	1129		92	1078		131	1214	
v/s Ratio Prot	0.10	c0.29		c0.17	c0.18		0.06	0.27		c0.07	c0.35	
v/s Ratio Perm												
v/c Ratio	0.74	0.97		1.01	0.55		1.01	0.83		0.95	1.03	
Uniform Delay, d1	49.8	41.4		50.0	33.0		56.5	37.4		55.3	39.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.9	22.0		56.5	2.0		96.8	5.5		64.1	34.2	
Delay (s)	61.6	63.4		106.5	34.9		153.3	43.0		119.4	73.7	
Level of Service	E	E		F	C		F	D		F	E	
Approach Delay (s)		63.2			57.8			53.4			77.9	
Approach LOS		E			E			D			E	
Intersection Summary												
HCM Average Control Delay			64.4			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			89.6%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
1: Mass. Ave. & Foster St

Timings
Future (2018) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	826	30	13	819	0	23	0	18	43	9	20
Lane Group Flow (vph)	0	955	0	22	920	0	0	63	0	0	125	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			4	
Permitted Phases				2			4			4		
Detector Phases		6		2	2		4	4		4	4	
Minimum Initial (s)		6.0		6.0	6.0		3.0	3.0		3.0	3.0	
Minimum Split (s)		20.0		20.0	20.0		7.0	7.0		7.0	7.0	
Total Split (s)	0.0	61.0	0.0	61.0	61.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	67.8%	0.0%	67.8%	67.8%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max		C-Max	C-Max		None	None		None	None	
v/c Ratio		0.76		0.12	0.73			0.46			0.87	
Control Delay		12.9		2.1	7.2			35.6			83.7	
Queue Delay		0.3		0.0	0.0			0.1			0.0	
Total Delay		13.2		2.1	7.2			35.7			83.7	
Queue Length 50th (ft)		165		0	19			18			59	
Queue Length 95th (ft)		#772		m2	#689			58			65	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)				50								
Base Capacity (vph)		1252		188	1259			136			143	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		45		0	0			1			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.79		0.12	0.73			0.47			0.87	
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green											
Natural Cycle:	90											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	19%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
1: Mass. Ave. & Foster St

Timings
Future (2018) Build PM Peak





Control Type: Actuated-Coordinated


















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



















Splits and Phases: 1: Mass. Ave. & Foster St

 02	 04	 09
61 s	12 s	17 s
 06		
61 s		

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.98			0.97	
Flpb, ped/bikes		1.00		1.00	1.00			0.99			0.98	
Frt		0.99		1.00	1.00			0.94			0.95	
Flt Protected		1.00		0.95	1.00			0.97			0.97	
Satd. Flow (prot)		1595		1744	1605			1626			1600	
Flt Permitted		1.00		0.22	1.00			0.73			0.84	
Satd. Flow (perm)		1595		402	1605			1223			1383	
Volume (vph)	0	826	30	13	819	0	23	0	18	43	9	20
Peak-hour factor, PHF	0.92	0.90	0.81	0.60	0.89	0.92	0.69	0.92	0.61	0.64	0.56	0.48
Adj. Flow (vph)	0	918	37	22	920	0	33	0	30	67	16	42
RTOR Reduction (vph)	0	1	0	0	0	0	0	27	0	0	20	0
Lane Group Flow (vph)	0	954	0	22	920	0	0	36	0	0	105	0
Confl. Peds. (#/hr)	2		1	5		5	7		7	14		14
Confl. Bikes (#/hr)			8			17			2			1
Heavy Vehicles (%)	2%	3%	3%	0%	3%	2%	0%	2%	0%	2%	0%	0%
Parking (#/hr)		0	0		0	0						
Turn Type				Perm			Perm			Perm		
Protected Phases		6			2			4			4	
Permitted Phases				2			4			4		
Actuated Green, G (s)		68.2		68.2	68.2			8.0			8.0	
Effective Green, g (s)		68.2		68.2	68.2			8.0			8.0	
Actuated g/C Ratio		0.76		0.76	0.76			0.09			0.09	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1209		305	1216			109			123	
v/s Ratio Prot		c0.60			0.57							
v/s Ratio Perm				0.05				0.03			c0.08	
v/c Ratio		0.79		0.07	0.76			0.33			0.85	
Uniform Delay, d1		6.6		2.8	6.2			38.5			40.4	
Progression Factor		1.00		0.23	0.40			1.00			1.00	
Incremental Delay, d2		5.3		0.3	3.4			1.8			40.2	
Delay (s)		11.8		1.0	5.9			40.2			80.6	
Level of Service		B		A	A			D			F	
Approach Delay (s)		11.8			5.8			40.2			80.6	
Approach LOS		B			A			D			F	
Intersection Summary												
HCM Average Control Delay			14.1			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			60.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd

Timings
Future (2018) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	13	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	75		100	0		0	80		0
Storage Lanes	0		0	0		1	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			740			487			680	
Travel Time (s)		10.3			16.8			11.1			15.5	
Volume (vph)	50	787	6	7	745	153	6	8	13	118	4	110
Lane Group Flow (vph)	0	980	0	0	813	159	0	41	0	139	137	0
Turn Type	Perm			Perm		pm+ov	Split			Split		
Protected Phases		6			2	8	4	4		8	8	
Permitted Phases	6			2		2						
Detector Phases	6	6		2	2	8	4	4		8	8	
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	51.0	51.0	0.0	51.0	51.0	12.0	10.0	10.0	0.0	12.0	12.0	0.0
Total Split (%)	56.7%	56.7%	0.0%	56.7%	56.7%	13.3%	11.1%	11.1%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		C-Min	C-Min	None	None	None		None	None	
v/c Ratio		0.67			0.68	0.15		0.31		0.76	0.50	
Control Delay		10.7			14.6	1.4		33.6		67.5	16.1	
Queue Delay		0.2			0.0	0.0		0.0		0.0	0.0	
Total Delay		10.8			14.6	1.4		33.6		67.5	16.1	
Queue Length 50th (ft)		91			218	3		13		80	6	
Queue Length 95th (ft)		m#374			#668	19		31		#171	0	
Internal Link Dist (ft)		372			660			407			600	
Turn Bay Length (ft)						100				80		
Base Capacity (vph)		1460			1190	1036		134		183	276	
Starvation Cap Reductn		64			0	0		0		0	0	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.70			0.68	0.15		0.31		0.76	0.50	
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of 1st Green, Master Intersection											
Natural Cycle:	90											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	19%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd

Timings
Future (2018) Build PM Peak

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mass. Ave. & Bates Rd

 02	 04	 08	 09
51 s	10 s	12 s	17 s
 06			
51 s			
















Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd

HCM Signalized Intersection Capacity Analysis
Future (2018) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	13	10	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.97		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		1.00			1.00	0.85		0.94		1.00	0.86	
Flt Protected		1.00			1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)		3156			1715	1263		1768		1805	1605	
Flt Permitted		0.78			0.98	1.00		0.99		0.95	1.00	
Satd. Flow (perm)		2455			1689	1263		1768		1805	1605	
Volume (vph)	50	787	6	7	745	153	6	8	13	118	4	110
Peak-hour factor, PHF	0.71	0.88	0.38	0.58	0.93	0.96	0.50	0.67	0.75	0.85	0.33	0.88
Adj. Flow (vph)	70	894	16	12	801	159	12	12	17	139	12	125
RTOR Reduction (vph)	0	1	0	0	0	24	0	16	0	0	112	0
Lane Group Flow (vph)	0	979	0	0	813	135	0	25	0	139	25	0
Confl. Peds. (#/hr)	10		10	9		9						
Confl. Bikes (#/hr)			23			9						
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	0%	0%	0%	0%	25%	0%
Bus Blockages (#/hr)	0	12	12	0	0	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			pm+ov		Split		Split	
Protected Phases	6			2			8		4	4	8	8
Permitted Phases	6			2			2					
Actuated Green, G (s)	59.5			59.5			68.6		3.6	9.1	9.1	
Effective Green, g (s)	59.5			59.5			68.6		3.6	9.1	9.1	
Actuated g/C Ratio	0.66			0.66			0.76		0.04	0.10	0.10	
Clearance Time (s)	4.0			4.0			4.0		4.0	4.0	4.0	
Vehicle Extension (s)	3.0			3.0			3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1623			1117			963		71	183	162	
v/s Ratio Prot							0.01		c0.01	c0.08	0.02	
v/s Ratio Perm	0.40			c0.48			0.09					
v/c Ratio	0.60			0.73			0.14		0.35	0.76	0.15	
Uniform Delay, d1	8.6			10.0			2.8		42.1	39.4	36.9	
Progression Factor	0.81			1.00			1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.0			4.2			0.1		2.9	16.5	0.4	
Delay (s)	8.0			14.1			2.9		45.0	55.8	37.4	
Level of Service	A			B			A		D	E	D	
Approach Delay (s)	8.0			12.3			45.0				46.7	
Approach LOS	A			B			D				D	
Intersection Summary												
HCM Average Control Delay	15.2			HCM Level of Service			B					
HCM Volume to Capacity ratio	0.71											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)			17.8					
Intersection Capacity Utilization	79.4%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												













Mass. Ave. - Arlington
3: Mass. Ave. & Grafton St

HCM Unsignalized Intersection Capacity Analysis
Future (2018) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	17	748	165	41	880	34	62	12	17	0	0	0
Peak Hour Factor	0.67	0.86	0.96	0.70	0.96	0.73	0.87	0.60	0.80	0.92	0.92	0.92
Hourly flow rate (vph)	25	870	172	59	917	47	71	20	21	0	0	0
Pedestrians		1			1			23			23	
Lane Width (ft)		12.0			13.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		740			647							
pX, platoon unblocked	0.61			0.96			0.63	0.63	0.96	0.63	0.63	0.61
vC, conflicting volume	986			1065			2002	2047	459	1598	2195	964
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	977			1024			2430	2502	392	1786	2738	941
tC, single (s)	4.1			4.2			7.5	6.7	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	94			91			0	0	96	0	100	100
cM capacity (veh/h)	433			628			9	14	576	0	10	160
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1							
Volume Total	315	580	172	1022	113							
Volume Left	25	0	0	59	71							
Volume Right	0	0	172	47	21							
cSH	433	1700	1700	628	12							
Volume to Capacity	0.06	0.34	0.10	0.09	9.52							
Queue Length 95th (ft)	5	0	0	8	Err							
Control Delay (s)	2.0	0.0	0.0	2.9	Err							
Lane LOS	A			A	F							
Approach Delay (s)	0.6			2.9	Err							
Approach LOS					F							
Intersection Summary												
Average Delay			512.7									
Intersection Capacity Utilization			93.6%		ICU Level of Service				F			
Analysis Period (min)			15									

Mass. Ave. - Arlington
4: Mass. Ave. & Winter St

Timings
Future (2018) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	11	10	11	11	12	12	10	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		75	150		0	0		75	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50				
Trailing Detector (ft)		0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			594			808			774	
Travel Time (s)		14.7			13.5			18.4			17.6	
Volume (vph)	0	632	110	183	654	0	312	0	218	0	0	0
Lane Group Flow (vph)	0	752	129	218	688	0	0	609	0	0	0	0
Turn Type		Perm pm+pt					Perm					
Protected Phases		6		5	2			4				
Permitted Phases			6	2			4					
Detector Phases		6	6	5	2		4	4				
Minimum Initial (s)		6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)		22.0	22.0	20.0	22.0		22.0	22.0				
Total Split (s)	0.0	27.0	27.0	20.0	47.0	0.0	35.0	35.0	0.0	0.0	0.0	0.0
Total Split (%)	0.0%	27.0%	27.0%	20.0%	47.0%	0.0%	35.0%	35.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)		3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)		1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		Min	Min	None	Min		None	None				
v/c Ratio		0.68	0.31	0.73	0.86			0.92				
Control Delay		30.2	26.6	29.1	32.7			48.7				
Queue Delay		0.0	0.0	0.0	0.0			0.0				
Total Delay		30.2	26.6	29.1	32.7			48.7				
Queue Length 50th (ft)		165	46	57	279			287				
Queue Length 95th (ft)		#344	122	140	#681			#524				
Internal Link Dist (ft)		567			514			728			694	
Turn Bay Length (ft)			75	150								
Base Capacity (vph)		1107	413	381	802			661				
Starvation Cap Reductn		0	0	0	0			0				
Spillback Cap Reductn		0	0	0	0			0				
Storage Cap Reductn		0	0	0	0			0				
Reduced v/c Ratio		0.68	0.31	0.57	0.86			0.92				

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 85.6

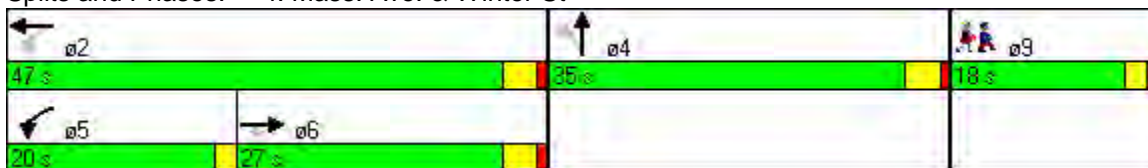
Natural Cycle: 105

Control Type: Actuated-Uncoordinated

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	18.0
Total Split (s)	18.0
Total Split (%)	18%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	













95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Mass. Ave. & Winter St






















Mass. Ave. - Arlington
4: Mass. Ave. & Winter St

HCM Signalized Intersection Capacity Analysis
Future (2018) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	11	10	11	11	12	12	10	12	12	12	12
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0				
Lane Util. Factor		0.95	1.00	1.00	1.00			1.00				
Frpb, ped/bikes		1.00	0.96	1.00	1.00			0.99				
Flpb, ped/bikes		1.00	1.00	1.00	1.00			0.99				
Frt		1.00	0.85	1.00	1.00			0.94				
Flt Protected		1.00	1.00	0.95	1.00			0.97				
Satd. Flow (prot)		3202	1210	1727	1587			1819				
Flt Permitted		1.00	1.00	0.19	1.00			0.97				
Satd. Flow (perm)		3202	1210	340	1587			1819				
Volume (vph)	0	632	110	183	654	0	312	0	218	0	0	0
Peak-hour factor, PHF	0.63	0.84	0.85	0.84	0.95	0.25	0.97	0.79	0.76	0.92	0.92	0.92
Adj. Flow (vph)	0	752	129	218	688	0	322	0	287	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	752	129	218	688	0	0	609	0	0	0	0
Confl. Peds. (#/hr)	10		10	6		6	16		17	15		15
Confl. Bikes (#/hr)			8			19						
Heavy Vehicles (%)	0%	3%	1%	1%	3%	0%	0%	0%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0	0	0	0	0	0	0
Parking (#/hr)		2	2		2	2						
Turn Type		Perm pm+pt					Perm					
Protected Phases		6		5	2			4				
Permitted Phases			6	2			4					
Actuated Green, G (s)		29.6	29.6	43.2	43.2			31.2				
Effective Green, g (s)		29.6	29.6	43.2	43.2			31.2				
Actuated g/C Ratio		0.34	0.34	0.49	0.49			0.35				
Clearance Time (s)		4.0	4.0	2.0	4.0			4.0				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		1077	407	318	779			645				
v/s Ratio Prot		0.23		0.07	0.43							
v/s Ratio Perm			0.11	0.26				0.33				
v/c Ratio		0.70	0.32	0.69	0.88			0.94				
Uniform Delay, d1		25.3	21.7	15.3	20.1			27.6				
Progression Factor		1.00	1.00	1.00	1.00			1.00				
Incremental Delay, d2		2.0	0.5	6.0	11.6			22.5				
Delay (s)		27.3	22.1	21.4	31.7			50.1				
Level of Service		C	C	C	C			D				
Approach Delay (s)		26.6			29.2			50.1			0.0	
Approach LOS		C			C			D			A	
Intersection Summary												
HCM Average Control Delay			33.5			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			88.0			Sum of lost time (s)			13.6			
Intersection Capacity Utilization			74.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
5: Mass. Ave. & Teel St

Timings
Future (2018) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		915			929			555			508	
Travel Time (s)		20.8			21.1			12.6			11.5	
Volume (vph)	13	684	0	0	887	8	32	3	20	0	0	13
Lane Group Flow (vph)	0	769	0	0	966	0	0	72	0	0	26	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	36.0	36.0			36.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	40.0	40.0			40.0		10.0	10.0		8.0	8.0	
Total Split (s)	63.0	63.0	0.0	0.0	63.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	70.0%	70.0%	0.0%	0.0%	70.0%	0.0%	11.1%	11.1%	0.0%	11.1%	11.1%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.32			0.73			0.60			0.06	
Control Delay		3.5			11.0			47.2			0.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.5			11.0			47.2			0.3	
Queue Length 50th (ft)		30			134			21			0	
Queue Length 95th (ft)		127			#755			#62			0	
Internal Link Dist (ft)		835			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2439			1320			121			423	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.32			0.73			0.60			0.06	
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	85.8											
Natural Cycle:	90											
Control Type:	Semi Act-Uncoord											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	19%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

















95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Mass. Ave. & Teel St

← 02	↑ 04	09
68 s	10 s	17 s
→ 06	↓ 08	
63 s	10 s	





















Mass. Ave. - Arlington
5: Mass. Ave. & Teel St

HCM Signalized Intersection Capacity Analysis
Future (2018) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.92	
Flpb, ped/bikes		1.00			1.00			0.97			1.00	
Frt		1.00			1.00			0.95			0.86	
Flt Protected		1.00			1.00			0.97			1.00	
Satd. Flow (prot)		3217			1618			1671			1518	
Flt Permitted		0.93			1.00			0.80			1.00	
Satd. Flow (perm)		2993			1618			1380			1518	
Volume (vph)	13	684	0	0	887	8	32	3	20	0	0	13
Peak-hour factor, PHF	0.75	0.91	0.92	0.92	0.93	0.67	0.75	0.75	0.79	0.92	0.92	0.50
Adj. Flow (vph)	17	752	0	0	954	12	43	4	25	0	0	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	22	0	0	24	0
Lane Group Flow (vph)	0	769	0	0	966	0	0	50	0	0	2	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Confl. Bikes (#/hr)			6			32			1			
Heavy Vehicles (%)	0%	3%	2%	2%	2%	0%	0%	0%	0%	2%	2%	0%
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		69.4			69.4			5.4			5.4	
Effective Green, g (s)		69.4			69.4			5.4			5.4	
Actuated g/C Ratio		0.78			0.78			0.06			0.06	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2347			1269			84			93	
v/s Ratio Prot					c0.60						0.00	
v/s Ratio Perm		0.26						c0.04				
v/c Ratio		0.33			0.76			0.60			0.02	
Uniform Delay, d1		2.8			5.1			40.5			39.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.4			4.3			11.5			0.1	
Delay (s)		3.1			9.5			52.0			39.1	
Level of Service		A			A			D			D	
Approach Delay (s)		3.1			9.5			52.0			39.1	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay		8.9			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.75										
Actuated Cycle Length (s)		88.5			Sum of lost time (s)			13.7				
Intersection Capacity Utilization		64.6%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

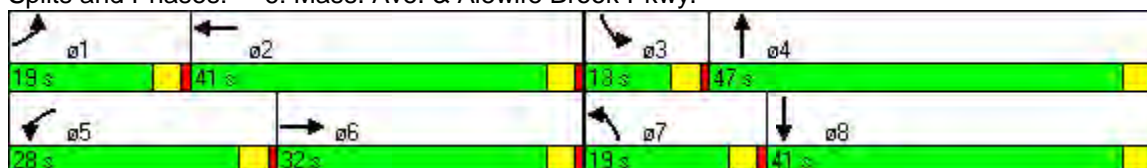
Timings
Future (2018) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		15%			0%			0%			0%	
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		929			689			656			574	
Travel Time (s)		21.1			15.7			14.9			13.0	
Volume (vph)	112	508	94	299	553	84	165	790	275	91	646	108
Lane Group Flow (vph)	117	674	0	322	704	0	190	1186	0	121	876	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	19.0	32.0	0.0	28.0	41.0	0.0	19.0	47.0	0.0	13.0	41.0	0.0
Total Split (%)	15.8%	26.7%	0.0%	23.3%	34.2%	0.0%	15.8%	39.2%	0.0%	10.8%	34.2%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	Max		None	Max		None	None		None	None	
v/c Ratio	0.68	0.89		0.93	0.63		0.90	0.95		0.89	0.81	
Control Delay	70.6	58.0		81.9	36.4		91.9	52.8		107.4	44.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	70.6	58.0		81.9	36.4		91.9	52.8		107.4	44.2	
Queue Length 50th (ft)	88	260		247	239		147	450		95	322	
Queue Length 95th (ft)	151	#370		#420	311		#269	#596		#158	384	
Internal Link Dist (ft)		849			609			576			494	
Turn Bay Length (ft)	75											
Base Capacity (vph)	201	755		353	1124		216	1261		136	1094	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.58	0.89		0.91	0.63		0.88	0.94		0.89	0.80	
Intersection Summary												
Area Type:	Other											
Cycle Length:	120											
Actuated Cycle Length:	118.3											
Natural Cycle:	90											
Control Type:	Actuated-Uncoordinated											

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.



Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Future (2018) Build PM Peak


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		15%			0%			0%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1614	3109		1752	3402		1703	3407		1787	3478	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1614	3109		1752	3402		1703	3407		1787	3478	
Volume (vph)	112	508	94	299	553	84	165	790	275	91	646	108
Peak-hour factor, PHF	0.96	0.94	0.70	0.93	0.93	0.77	0.87	0.92	0.84	0.75	0.87	0.81
Adj. Flow (vph)	117	540	134	322	595	109	190	859	327	121	743	133
RTOR Reduction (vph)	0	18	0	0	12	0	0	33	0	0	12	0
Lane Group Flow (vph)	117	656	0	322	692	0	190	1153	0	121	864	0
Confl. Peds. (#/hr)	8		9	12		13	5		4	1		2
Confl. Bikes (#/hr)			8			30						
Heavy Vehicles (%)	0%	3%	5%	3%	3%	1%	6%	1%	1%	1%	1%	1%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	12.6	28.0		23.3	38.7		14.7	42.0		9.0	36.3	
Effective Green, g (s)	12.6	28.0		23.3	38.7		14.7	42.0		9.0	36.3	
Actuated g/C Ratio	0.11	0.24		0.20	0.33		0.12	0.36		0.08	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	172	736		345	1113		212	1210		136	1067	
v/s Ratio Prot	0.07	c0.21		c0.18	0.20		c0.11	c0.34		0.07	0.25	
v/s Ratio Perm												
v/c Ratio	0.68	0.89		0.93	0.62		0.90	0.95		0.89	0.81	
Uniform Delay, d1	50.9	43.7		46.7	33.6		51.0	37.2		54.2	37.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.5	15.2		31.6	2.6		34.7	15.9		45.2	4.6	
Delay (s)	61.4	58.9		78.3	36.2		85.7	53.0		99.3	42.4	
Level of Service	E	E		E	D		F	D		F	D	
Approach Delay (s)		59.3			49.4			57.6			49.3	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM Average Control Delay			53.9			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			118.3			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			82.9%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

CAPACITY ANALYSIS

2028 Build

Mass. Ave. - Arlington
1: Mass. Ave. & Foster St.

Timings
Future (2028) Build AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	960	28	17	721	0	19	0	19	52	17	12
Lane Group Flow (vph)	0	1270	0	35	819	0	0	80	0	0	115	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			4	
Permitted Phases				2			4			4		
Detector Phases		6		2	2		4	4		4	4	
Minimum Initial (s)		50.0		50.0	50.0		1.0	1.0		1.0	1.0	
Minimum Split (s)		54.0		54.0	54.0		6.0	6.0		6.0	6.0	
Total Split (s)	0.0	70.0	0.0	70.0	70.0	0.0	13.0	13.0	0.0	13.0	13.0	0.0
Total Split (%)	0.0%	70.0%	0.0%	70.0%	70.0%	0.0%	13.0%	13.0%	0.0%	13.0%	13.0%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max		C-Max	C-Max		None	None		None	None	
v/c Ratio		1.02		0.39	0.65			0.47			0.96	
Control Delay		42.5		20.4	7.8			30.2			115.8	
Queue Delay		0.0		0.0	0.1			0.0			0.0	
Total Delay		42.5		20.4	7.9			30.2			115.8	
Queue Length 50th (ft)		511		2	56			19			69	
Queue Length 95th (ft)		#1002		m8	251			65			#167	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)				50								
Base Capacity (vph)		1250		89	1265			170			120	
Starvation Cap Reductn		0		0	23			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		1.02		0.39	0.66			0.47			0.96	
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	82 (82%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green											
Natural Cycle:	150											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	17%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
 1: Mass. Ave. & Foster St.

Timings
 Future (2028) Build AM Peak

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Mass. Ave. & Foster St.

← ø2	↑↓ ø4	ø9
70 s	13 s	17 s
→ ø6		
70 s		



















Mass. Ave. - Arlington
1: Mass. Ave. & Foster St.

HCM Signalized Intersection Capacity Analysis
Future (2028) Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.98			0.97	
Flpb, ped/bikes		1.00		1.00	1.00			0.99			0.98	
Frt		1.00		1.00	1.00			0.92			0.97	
Flt Protected		1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)		1568		1745	1589			1663			1634	
Flt Permitted		1.00		0.08	1.00			0.83			0.74	
Satd. Flow (perm)		1568		147	1589			1399			1245	
Volume (vph)	0	960	28	17	721	0	19	0	19	52	17	12
Peak-hour factor, PHF	0.92	0.78	0.78	0.53	0.88	0.92	0.68	0.92	0.43	0.81	0.85	0.60
Growth Factor (vph)	110%	100%	110%	110%	100%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	0	1231	39	35	819	0	31	0	49	71	22	22
RTOR Reduction (vph)	0	1	0	0	0	0	0	45	0	0	8	0
Lane Group Flow (vph)	0	1269	0	35	819	0	0	35	0	0	107	0
Confl. Peds. (#/hr)	2			2			6		6	16		17
Confl. Bikes (#/hr)			27			10			1			8
Heavy Vehicles (%)	2%	5%	0%	0%	4%	2%	0%	2%	0%	2%	0%	17%
Parking (#/hr)		0	0		0	0						
Turn Type				Perm			Perm			Perm		
Protected Phases		6			2			4			4	
Permitted Phases				2			4			4		
Actuated Green, G (s)		77.2		77.2	77.2			9.0			9.0	
Effective Green, g (s)		77.2		77.2	77.2			9.0			9.0	
Actuated g/C Ratio		0.77		0.77	0.77			0.09			0.09	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1210		113	1227			126			112	
v/s Ratio Prot		c0.81			0.52							
v/s Ratio Perm				0.24				0.03			c0.09	
v/c Ratio		1.05		0.31	0.67			0.28			0.95	
Uniform Delay, d1		11.4		3.4	5.4			42.5			45.3	
Progression Factor		1.00		1.06	0.92			1.00			1.00	
Incremental Delay, d2		39.7		5.0	2.1			1.2			69.9	
Delay (s)		51.1		8.7	7.0			43.7			115.2	
Level of Service		D		A	A			D			F	
Approach Delay (s)		51.1			7.1			43.7			115.2	
Approach LOS		D			A			D			F	
Intersection Summary												
HCM Average Control Delay			37.8			HCM Level of Service				D		
HCM Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			68.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd.

Timings
Future (2028) Build AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	80		0
Storage Lanes	0		0	0		1	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			740			487			680	
Travel Time (s)		10.3			16.8			11.1			15.5	
Volume (vph)	43	953	7	2	666	59	4	3	8	245	1	102
Lane Group Flow (vph)	0	1284	0	0	775	93	0	31	0	313	136	0
Turn Type	Perm			Perm		pm+ov	Split			Split		
Protected Phases		6			2	8	4	4		8	8	
Permitted Phases	6			2		2						
Detector Phases	6	6		2	2	8	4	4		8	8	
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	4.0	4.0		6.0	6.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	10.0	8.0	8.0		10.0	10.0	
Total Split (s)	50.0	50.0	0.0	50.0	50.0	23.0	10.0	10.0	0.0	23.0	23.0	0.0
Total Split (%)	50.0%	50.0%	0.0%	50.0%	50.0%	23.0%	10.0%	10.0%	0.0%	23.0%	23.0%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		C-Min	C-Min	None	None	None		None	None	
v/c Ratio		1.06			0.75	0.09		0.27		0.89	0.33	
Control Delay		51.7			22.1	0.8		37.0		67.7	9.1	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		51.7			22.1	0.8		37.0		67.7	9.1	
Queue Length 50th (ft)		~473			316	0		11		198	2	
Queue Length 95th (ft)		m#576			#716	4		12		#336	0	
Internal Link Dist (ft)		372			660			407			600	
Turn Bay Length (ft)										80		
Base Capacity (vph)		1207			1030	1064		118		353	420	
Starvation Cap Reductn		0			0	0		0		0	0	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		1.06			0.75	0.09		0.26		0.89	0.32	
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of 1st Green, Master Intersection											
Natural Cycle:	130											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	17%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd.

Timings
Future (2028) Build AM Peak

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.





Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mass. Ave. & Bates Rd.

 ø2	 ø4	 ø8	 ø9
50 s	10 s	23 s	17 s
 ø6			
50 s			

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd.

















HCM Signalized Intersection Capacity Analysis
Future (2028) Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	13	10	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.98		1.00		1.00	0.97	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		1.00			1.00	0.85		0.94		1.00	0.85	
Flt Protected		1.00			1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)		3208			1683	1269		1767		1770	1576	
Flt Permitted		0.73			0.98	1.00		0.99		0.95	1.00	
Satd. Flow (perm)		2364			1655	1269		1767		1770	1576	
Volume (vph)	43	953	7	2	666	59	4	3	8	245	1	102
Peak-hour factor, PHF	0.67	0.80	0.35	0.25	0.87	0.70	0.50	0.38	0.67	0.86	0.25	0.85
Growth Factor (vph)	110%	100%	110%	110%	100%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	71	1191	22	9	766	93	9	9	13	313	4	132
RTOR Reduction (vph)	0	1	0	0	0	20	0	13	0	0	106	0
Lane Group Flow (vph)	0	1283	0	0	775	73	0	18	0	313	30	0
Confl. Peds. (#/hr)	1									4		4
Confl. Bikes (#/hr)			25			18						
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	12	12	0	0	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm		pm+ov	Split			Split		
Protected Phases		6			2	8	4	4		8	8	
Permitted Phases	6			2		2						
Actuated Green, G (s)		58.7			58.7	78.6		3.6		19.9	19.9	
Effective Green, g (s)		58.7			58.7	78.6		3.6		19.9	19.9	
Actuated g/C Ratio		0.59			0.59	0.79		0.04		0.20	0.20	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1388			971	997		64		352	314	
v/s Ratio Prot						0.01		c0.01		c0.18	0.02	
v/s Ratio Perm		c0.54			0.47	0.04						
v/c Ratio		0.92			0.80	0.07		0.29		0.89	0.10	
Uniform Delay, d1		18.6			16.0	2.4		47.0		39.0	32.7	
Progression Factor		0.74			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		3.4			6.8	0.0		2.5		22.8	0.1	
Delay (s)		17.3			22.9	2.5		49.4		61.7	32.8	
Level of Service		B			C	A		D		E	C	
Approach Delay (s)		17.3			20.7			49.4			53.0	
Approach LOS		B			C			D			D	
Intersection Summary												
HCM Average Control Delay		24.9			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.89										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			17.8				
Intersection Capacity Utilization		89.9%			ICU Level of Service			E				
Analysis Period (min)		15										

c Critical Lane Group













Mass. Ave. - Arlington
3: Mass. Ave. & Grafton St

HCM Unsignalized Intersection Capacity Analysis
Future (2028) Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	18	1073	187	53	650	33	32	5	23	0	0	0
Peak Hour Factor	0.56	0.85	0.74	0.95	0.89	0.83	0.67	0.42	0.96	0.92	0.92	0.92
Hourly flow rate (vph)	35	1262	278	61	730	44	53	13	26	0	0	0
Pedestrians		2			3			12			12	
Lane Width (ft)		12.0			13.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		740			647							
pX, platoon unblocked	0.71			0.81			0.81	0.81	0.81	0.81	0.81	0.71
vC, conflicting volume	786			1552			2222	2254	646	1625	2510	766
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	701			1445			1909	1949	321	1173	2264	673
tC, single (s)	4.1			4.1			7.5	6.9	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.2	3.3	3.5	4.0	3.3
p0 queue free %	95			83			0	60	95	100	100	100
cM capacity (veh/h)	647			371			28	33	533	66	25	284
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1							
Volume Total	456	842	278	835	92							
Volume Left	35	0	0	61	53							
Volume Right	0	0	278	44	26							
cSH	647	1700	1700	371	40							
Volume to Capacity	0.05	0.50	0.16	0.17	2.31							
Queue Length 95th (ft)	4	0	0	15	249							
Control Delay (s)	1.6	0.0	0.0	5.9	814.0							
Lane LOS	A			A	F							
Approach Delay (s)	0.5			5.9	814.0							
Approach LOS					F							
Intersection Summary												
Average Delay			32.2									
Intersection Capacity Utilization			90.6%			ICU Level of Service			E			
Analysis Period (min)			15									

Mass. Ave. - Arlington
4: Mass. Ave. & Winter St

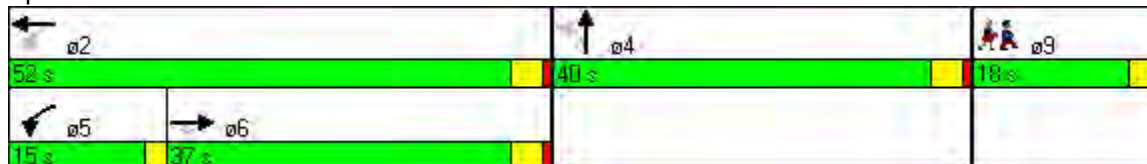
Timings
Future (2028) Build AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	11	11	10	11	11	12	12	10	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		75	120		0	0		75	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50				
Trailing Detector (ft)		0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1509			808			774	
Travel Time (s)		14.7			34.3			18.4			17.6	
Volume (vph)	0	867	274	168	554	0	244	0	233	0	0	0
Lane Group Flow (vph)	0	1020	363	199	609	0	0	719	0	0	0	0
Turn Type		Perm pm+pt					Perm					
Protected Phases		6		5	2			4				
Permitted Phases			6	2			4					
Detector Phases		6	6	5	2		4	4				
Minimum Initial (s)		6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)		22.0	22.0	20.0	22.0		22.0	22.0				
Total Split (s)	0.0	37.0	37.0	15.0	52.0	0.0	40.0	40.0	0.0	0.0	0.0	0.0
Total Split (%)	0.0%	33.6%	33.6%	13.6%	47.3%	0.0%	36.4%	36.4%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)		3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)		1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		Min	Min	None	Min		None	None				
v/c Ratio		0.94	0.91	0.76	0.79			1.07				
Control Delay		47.6	60.5	38.6	29.7			84.5				
Queue Delay		0.0	0.0	0.0	0.0			0.0				
Total Delay		47.6	60.5	38.6	29.7			84.5				
Queue Length 50th (ft)		294	196	62	266			~456				
Queue Length 95th (ft)		#508	#412	#221	#619			#588				
Internal Link Dist (ft)		567			1429			728			694	
Turn Bay Length (ft)			75	120								
Base Capacity (vph)		1086	397	270	779			674				
Starvation Cap Reductn		0	0	0	0			0				
Spillback Cap Reductn		0	0	0	0			0				
Storage Cap Reductn		0	0	0	0			0				
Reduced v/c Ratio		0.94	0.91	0.74	0.78			1.07				
Intersection Summary												
Area Type:	Other											
Cycle Length:	110											
Actuated Cycle Length:	95.1											
Natural Cycle:	145											
Control Type:	Actuated-Uncoordinated											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	18.0
Total Split (s)	18.0
Total Split (%)	16%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	













- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Mass. Ave. & Winter St



Mass. Ave. - Arlington
4: Mass. Ave. & Winter St

















HCM Signalized Intersection Capacity Analysis
Future (2028) Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	11	11	10	11	11	12	12	10	12	12	12	12
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0				
Lane Util. Factor		0.95	1.00	1.00	1.00			1.00				
Frpb, ped/bikes		1.00	0.92	1.00	1.00			0.99				
Flpb, ped/bikes		1.00	1.00	1.00	1.00			0.99				
Frt		1.00	0.85	1.00	1.00			0.93				
Flt Protected		1.00	1.00	0.95	1.00			0.98				
Satd. Flow (prot)		3111	1147	1694	1542			1774				
Flt Permitted		1.00	1.00	0.11	1.00			0.98				
Satd. Flow (perm)		3111	1147	192	1542			1774				
Volume (vph)	0	867	274	168	554	0	244	0	233	0	0	0
Peak-hour factor, PHF	0.73	0.85	0.83	0.93	0.91	0.64	0.75	0.71	0.71	0.92	0.92	0.92
Growth Factor (vph)	110%	100%	110%	110%	100%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	0	1020	363	199	609	0	358	0	361	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1020	363	199	609	0	0	719	0	0	0	0
Confl. Peds. (#/hr)	14		14	13		14	15		14	24		24
Confl. Bikes (#/hr)			33			20			1			
Heavy Vehicles (%)	0%	6%	3%	3%	6%	3%	4%	0%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0	0	0	0	0	0	0
Parking (#/hr)		2	2		2	2						
Turn Type		Perm		pm+pt			Perm					
Protected Phases		6		5	2			4				
Permitted Phases			6	2			4					
Actuated Green, G (s)		33.2	33.2	47.7	47.7			36.2				
Effective Green, g (s)		33.2	33.2	47.7	47.7			36.2				
Actuated g/C Ratio		0.34	0.34	0.49	0.49			0.37				
Clearance Time (s)		4.0	4.0	2.0	4.0			4.0				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		1059	391	256	754			659				
v/s Ratio Prot		c0.33		0.08	c0.39							
v/s Ratio Perm			0.32	0.30				0.41				
v/c Ratio		0.96	0.93	0.78	0.81			1.09				
Uniform Delay, d1		31.6	31.0	20.5	21.0			30.6				
Progression Factor		1.00	1.00	1.00	1.00			1.00				
Incremental Delay, d2		19.2	27.9	13.8	6.4			62.4				
Delay (s)		50.8	58.9	34.3	27.4			93.1				
Level of Service		D	E	C	C			F				
Approach Delay (s)		52.9			29.1			93.1			0.0	
Approach LOS		D			C			F			A	
Intersection Summary												
HCM Average Control Delay			56.2			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			97.5			Sum of lost time (s)				17.6		
Intersection Capacity Utilization			78.0%			ICU Level of Service				D		
Analysis Period (min)			15									

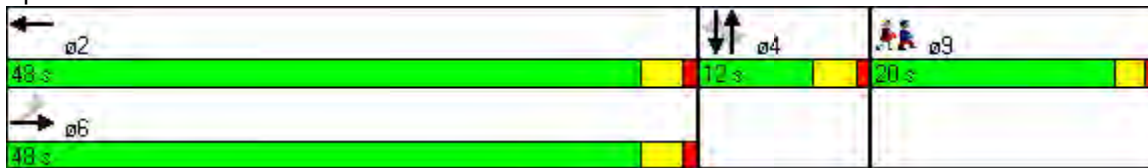
c Critical Lane Group

Mass. Ave. - Arlington
5: Mass. Ave. & Teel St

Timings
Future (2028) Build AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	13	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1509			929			555			508	
Travel Time (s)		34.3			21.1			12.6			11.5	
Volume (vph)	8	1003	0	0	693	4	27	2	23	6	0	21
Lane Group Flow (vph)	0	1198	0	0	723	0	0	88	0	0	48	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			4	
Permitted Phases	6						4			4		
Detector Phases	6	6			2		4	4		4	4	
Minimum Initial (s)	36.0	36.0			36.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	40.0	40.0			40.0		10.0	10.0		10.0	10.0	
Total Split (s)	48.0	48.0	0.0	0.0	48.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	60.0%	60.0%	0.0%	0.0%	60.0%	0.0%	15.0%	15.0%	0.0%	15.0%	15.0%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.52			0.59			0.48			0.26	
Control Delay		6.3			9.0			27.5			17.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.3			9.0			27.5			17.9	
Queue Length 50th (ft)		70			88			18			4	
Queue Length 95th (ft)		240			404			7			36	
Internal Link Dist (ft)		1429			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2303			1228			198			198	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.52			0.59			0.44			0.24	
Intersection Summary												
Area Type:	Other											
Cycle Length:	80											
Actuated Cycle Length:	74.9											
Natural Cycle:	70											
Control Type:	Semi Act-Uncoord											

















Splits and Phases: 5: Mass. Ave. & Teel St



Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	4.0
Minimum Split (s)	20.0
Total Split (s)	20.0
Total Split (%)	25%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
5: Mass. Ave. & Teel St





















HCM Signalized Intersection Capacity Analysis
Future (2028) Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	13	12	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.93	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		1.00			1.00			0.95			0.90	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		3218			1617			1675			1553	
Flt Permitted		0.94			1.00			0.87			0.92	
Satd. Flow (perm)		3034			1617			1500			1449	
Volume (vph)	8	1003	0	0	693	4	27	2	23	6	0	21
Peak-hour factor, PHF	0.50	0.85	0.92	0.92	0.97	0.50	0.68	0.25	0.72	0.50	0.92	0.66
Growth Factor (vph)	110%	100%	110%	110%	100%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	18	1180	0	0	714	9	44	9	35	13	0	35
RTOR Reduction (vph)	0	0	0	0	0	0	0	30	0	0	32	0
Lane Group Flow (vph)	0	1198	0	0	723	0	0	58	0	0	16	0
Confl. Peds. (#/hr)	3		3				5		5	15		14
Confl. Bikes (#/hr)			51			9			3			1
Heavy Vehicles (%)	0%	4%	2%	2%	4%	25%	4%	0%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	12	12	0	11	11	0	0	0	0	0	0
Parking (#/hr)	0	0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			4	
Permitted Phases	6						4			4		
Actuated Green, G (s)		56.5			56.5			7.0			7.0	
Effective Green, g (s)		56.5			56.5			7.0			7.0	
Actuated g/C Ratio		0.73			0.73			0.09			0.09	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2220			1183			136			131	
v/s Ratio Prot					c0.45							
v/s Ratio Perm		0.39						c0.04			0.01	
v/c Ratio		0.54			0.61			0.43			0.12	
Uniform Delay, d1		4.6			5.0			33.2			32.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.4			2.1			0.4	
Delay (s)		5.5			7.4			35.3			32.7	
Level of Service		A			A			D			C	
Approach Delay (s)		5.5			7.4			35.3			32.7	
Approach LOS		A			A			D			C	
Intersection Summary												
HCM Average Control Delay		8.1			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		77.2			Sum of lost time (s)			13.7				
Intersection Capacity Utilization		51.5%			ICU Level of Service			A				
Analysis Period (min)		15										

c Critical Lane Group

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Future (2028) Build AM Peak





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	175		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			No
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		929			689			656			574	
Travel Time (s)		21.1			15.7			14.9			13.0	
Volume (vph)	128	767	160	283	516	47	83	507	299	114	1153	32
Lane Group Flow (vph)	186	1001	0	308	654	0	98	936	0	131	1311	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	24.0	40.0	0.0	24.0	40.0	0.0	11.0	43.0	0.0	13.0	45.0	0.0
Total Split (%)	20.0%	33.3%	0.0%	20.0%	33.3%	0.0%	9.2%	35.8%	0.0%	10.8%	37.5%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	Max		None	Max		None	None		None	None	
v/c Ratio	0.77	1.02		1.07	0.58		1.07	0.87		1.00	1.08	
Control Delay	69.6	74.3		119.2	36.8		166.2	48.0		134.5	88.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.6	74.3		119.2	36.8		166.2	48.0		134.5	88.3	
Queue Length 50th (ft)	139	~419		~263	223		~84	357		103	~596	
Queue Length 95th (ft)	159	#563		#442	283		#182	389		#223	#734	
Internal Link Dist (ft)		849			609			576			494	
Turn Bay Length (ft)	175											
Base Capacity (vph)	283	986		289	1120		92	1078		131	1214	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.66	1.02		1.07	0.58		1.07	0.87		1.00	1.08	
Intersection Summary												
Area Type:	Other											
Cycle Length:	120											
Actuated Cycle Length:	120											
Natural Cycle:	130											
Control Type:	Actuated-Uncoordinated											

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

Timings
Future (2028) Build AM Peak





















- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.

 ø1	 ø2	 ø3	 ø4
24 s	40 s	13 s	43 s
 ø5	 ø6	 ø7	 ø8
24 s	40 s	11 s	45 s


















Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Future (2028) Build AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	3286		1736	3420		1570	3318		1752	3554	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1745	3286		1736	3420		1570	3318		1752	3554	
Volume (vph)	128	767	160	283	516	47	83	507	299	114	1153	32
Peak-hour factor, PHF	0.69	0.93	0.91	0.92	0.87	0.77	0.85	0.82	0.94	0.87	0.91	0.73
Adj. Flow (vph)	186	825	176	308	593	61	98	618	318	131	1267	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	186	1001	0	308	654	0	98	936	0	131	1311	0
Confl. Peds. (#/hr)	27		28	4		4	1		1	3		3
Confl. Bikes (#/hr)			47			10			3			1
Heavy Vehicles (%)	0%	5%	5%	4%	4%	2%	15%	1%	6%	3%	1%	0%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	16.7	36.0		20.0	39.3		7.0	39.0		9.0	41.0	
Effective Green, g (s)	16.7	36.0		20.0	39.3		7.0	39.0		9.0	41.0	
Actuated g/C Ratio	0.14	0.30		0.17	0.33		0.06	0.32		0.08	0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	243	986		289	1120		92	1078		131	1214	
v/s Ratio Prot	0.11	c0.30		c0.18	c0.19		0.06	0.28		c0.07	c0.37	
v/s Ratio Perm												
v/c Ratio	0.77	1.02		1.07	0.58		1.07	0.87		1.00	1.08	
Uniform Delay, d1	49.8	42.0		50.0	33.6		56.5	38.1		55.5	39.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.4	32.5		71.4	2.2		112.6	7.6		78.6	50.3	
Delay (s)	63.1	74.5		121.4	35.8		169.1	45.7		134.1	89.8	
Level of Service	E	E		F	D		F	D		F	F	
Approach Delay (s)		72.7			63.2			57.4			93.8	
Approach LOS		E			E			E			F	
Intersection Summary												
HCM Average Control Delay			73.9			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			93.3%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
1: Mass. Ave. & Foster St

Timings
Future (2028) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		565			452			459			507	
Travel Time (s)		12.8			10.3			10.4			11.5	
Volume (vph)	0	865	29	12	857	0	22	0	17	41	9	19
Lane Group Flow (vph)	0	1000	0	22	963	0	0	66	0	0	132	0
Turn Type			Perm			Perm			Perm			
Protected Phases		6			2			4			4	
Permitted Phases				2			4			4		
Detector Phases		6		2	2		4	4		4	4	
Minimum Initial (s)		6.0		6.0	6.0		3.0	3.0		3.0	3.0	
Minimum Split (s)		20.0		20.0	20.0		7.0	7.0		7.0	7.0	
Total Split (s)	0.0	61.0	0.0	61.0	61.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	67.8%	0.0%	67.8%	67.8%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max		C-Max	C-Max		None	None		None	None	
v/c Ratio		0.80		0.15	0.76			0.49			0.93	
Control Delay		14.4		2.6	7.7			37.0			95.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		14.4		2.6	7.7			37.0			95.7	
Queue Length 50th (ft)		185		0	22			19			63	
Queue Length 95th (ft)		#829		m2	#740			#62			69	
Internal Link Dist (ft)		485			372			379			427	
Turn Bay Length (ft)				50								
Base Capacity (vph)		1252		150	1259			135			142	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.80		0.15	0.76			0.49			0.93	
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green											
Natural Cycle:	90											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	19%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
1: Mass. Ave. & Foster St

Timings
Future (2028) Build PM Peak

Control Type: Actuated-Coordinated


















95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.




















Splits and Phases: 1: Mass. Ave. & Foster St

 02	 04	 09
61 s	12 s	17 s
 06		
61 s		

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	11	11	11
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00			0.98			0.97	
Flpb, ped/bikes		1.00		1.00	1.00			0.99			0.98	
Frt		0.99		1.00	1.00			0.94			0.95	
Flt Protected		1.00		0.95	1.00			0.97			0.97	
Satd. Flow (prot)		1595		1744	1605			1628			1602	
Flt Permitted		1.00		0.20	1.00			0.72			0.84	
Satd. Flow (perm)		1595		364	1605			1202			1376	
Volume (vph)	0	865	29	12	857	0	22	0	17	41	9	19
Peak-hour factor, PHF	0.92	0.90	0.81	0.60	0.89	0.92	0.69	0.92	0.61	0.64	0.56	0.48
Growth Factor (vph)	110%	100%	110%	110%	100%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	0	961	39	22	963	0	35	0	31	70	18	44
RTOR Reduction (vph)	0	1	0	0	0	0	0	28	0	0	20	0
Lane Group Flow (vph)	0	999	0	22	963	0	0	38	0	0	112	0
Confl. Peds. (#/hr)	2		1	5		5	7		7	14		14
Confl. Bikes (#/hr)			8			17			2			1
Heavy Vehicles (%)	2%	3%	3%	0%	3%	2%	0%	2%	0%	2%	0%	0%
Parking (#/hr)		0	0		0	0						
Turn Type				Perm			Perm			Perm		
Protected Phases		6			2			4			4	
Permitted Phases				2			4			4		
Actuated Green, G (s)		68.2		68.2	68.2			8.0			8.0	
Effective Green, g (s)		68.2		68.2	68.2			8.0			8.0	
Actuated g/C Ratio		0.76		0.76	0.76			0.09			0.09	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1209		276	1216			107			122	
v/s Ratio Prot		c0.63			0.60							
v/s Ratio Perm				0.06				0.03			c0.08	
v/c Ratio		0.83		0.08	0.79			0.35			0.92	
Uniform Delay, d1		7.1		2.8	6.6			38.6			40.7	
Progression Factor		1.00		0.22	0.34			1.00			1.00	
Incremental Delay, d2		6.5		0.4	3.9			2.0			56.0	
Delay (s)		13.6		1.0	6.1			40.6			96.7	
Level of Service		B		A	A			D			F	
Approach Delay (s)		13.6			6.0			40.6			96.7	
Approach LOS		B			A			D			F	
Intersection Summary												
HCM Average Control Delay			16.0			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			62.7%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd

Timings
Future (2028) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	13	10	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		0	75		100	0		0	80		0
Storage Lanes	0		0	0		1	0		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50		50	50	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			740			487			680	
Travel Time (s)		10.3			16.8			11.1			15.5	
Volume (vph)	48	824	6	7	780	146	6	8	12	112	4	105
Lane Group Flow (vph)	0	1027	0	0	852	167	0	44	0	145	144	0
Turn Type	Perm			Perm		pm+ov	Split			Split		
Protected Phases		6			2	8	4	4		8	8	
Permitted Phases	6			2		2						
Detector Phases	6	6		2	2	8	4	4		8	8	
Minimum Initial (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	20.0	20.0		20.0	20.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	51.0	51.0	0.0	51.0	51.0	12.0	10.0	10.0	0.0	12.0	12.0	0.0
Total Split (%)	56.7%	56.7%	0.0%	56.7%	56.7%	13.3%	11.1%	11.1%	0.0%	13.3%	13.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Min	C-Min		C-Min	C-Min	None	None	None		None	None	
v/c Ratio		0.74			0.72	0.16		0.33		0.77	0.50	
Control Delay		12.3			15.8	1.4		34.2		67.7	15.9	
Queue Delay		0.0			0.0	0.0		0.0		0.0	0.0	
Total Delay		12.3			15.8	1.4		34.2		67.7	15.9	
Queue Length 50th (ft)		95			240	4		14		83	7	
Queue Length 95th (ft)		m#420			#717	20		33		#179	0	
Internal Link Dist (ft)		372			660			407			600	
Turn Bay Length (ft)						100				80		
Base Capacity (vph)		1379			1182	1036		135		189	286	
Starvation Cap Reductn		0			0	0		0		0	0	
Spillback Cap Reductn		0			0	0		0		0	0	
Storage Cap Reductn		0			0	0		0		0	0	
Reduced v/c Ratio		0.74			0.72	0.16		0.33		0.77	0.50	
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of 1st Green, Master Intersection											
Natural Cycle:	90											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	19%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd

Timings
Future (2028) Build PM Peak

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Mass. Ave. & Bates Rd

 02	 04	 08	 09
51 s	10 s	12 s	17 s
 06			
51 s			

Mass. Ave. - Arlington
2: Mass. Ave. & Bates Rd
















HCM Signalized Intersection Capacity Analysis
Future (2028) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	13	10	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	0.97		1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		1.00	1.00	
Frt		1.00			1.00	0.85		0.94		1.00	0.86	
Flt Protected		1.00			1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)		3156			1715	1263		1769		1805	1605	
Flt Permitted		0.74			0.98	1.00		0.99		0.95	1.00	
Satd. Flow (perm)		2359			1685	1263		1769		1805	1605	
Volume (vph)	48	824	6	7	780	146	6	8	12	112	4	105
Peak-hour factor, PHF	0.71	0.88	0.38	0.58	0.93	0.96	0.50	0.67	0.75	0.85	0.33	0.88
Growth Factor (vph)	110%	100%	110%	110%	100%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	74	936	17	13	839	167	13	13	18	145	13	131
RTOR Reduction (vph)	0	1	0	0	0	24	0	17	0	0	117	0
Lane Group Flow (vph)	0	1026	0	0	852	143	0	27	0	145	27	0
Confl. Peds. (#/hr)	10		10	9		9						
Confl. Bikes (#/hr)			23			9						
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	0%	0%	0%	0%	25%	0%
Bus Blockages (#/hr)	0	12	12	0	0	11	0	0	0	0	0	0
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			pm+ov		Split		Split	
Protected Phases		6			2	8	4	4		8	8	
Permitted Phases	6			2		2						
Actuated Green, G (s)		59.2			59.2	68.6		3.6		9.4	9.4	
Effective Green, g (s)		59.2			59.2	68.6		3.6		9.4	9.4	
Actuated g/C Ratio		0.66			0.66	0.76		0.04		0.10	0.10	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1552			1108	963		71		189	168	
v/s Ratio Prot						0.02		c0.02		c0.08	0.02	
v/s Ratio Perm		0.43			c0.51	0.10						
v/c Ratio		0.66			0.77	0.15		0.38		0.77	0.16	
Uniform Delay, d1		9.3			10.7	2.9		42.1		39.2	36.7	
Progression Factor		0.79			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		1.3			5.2	0.1		3.3		16.9	0.4	
Delay (s)		8.6			15.8	2.9		45.4		56.1	37.1	
Level of Service		A			B	A		D		E	D	
Approach Delay (s)		8.6			13.7			45.4			46.7	
Approach LOS		A			B			D			D	
Intersection Summary												
HCM Average Control Delay		16.1			HCM Level of Service					B		
HCM Volume to Capacity ratio		0.75										
Actuated Cycle Length (s)		90.0			Sum of lost time (s)					17.8		
Intersection Capacity Utilization		82.9%			ICU Level of Service					E		
Analysis Period (min)		15										

c Critical Lane Group













Mass. Ave. - Arlington
3: Mass. Ave. & Grafton St

HCM Unsignalized Intersection Capacity Analysis
Future (2028) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	16	783	157	39	921	32	59	11	16	0	0	0
Peak Hour Factor	0.67	0.86	0.96	0.70	0.96	0.73	0.87	0.60	0.80	0.92	0.92	0.92
Hourly flow rate (vph)	26	910	180	61	959	48	75	20	22	0	0	0
Pedestrians		1			1			23			23	
Lane Width (ft)		12.0			13.0			12.0			0.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			2			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)		740			647							
pX, platoon unblocked	0.57			0.94			0.60	0.60	0.94	0.60	0.60	0.57
vC, conflicting volume	1031			1113			2093	2139	479	1670	2295	1007
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1054			1061			2595	2672	389	1887	2933	1013
tC, single (s)	4.1			4.2			7.5	6.7	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	93			90			0	0	96	0	100	100
cM capacity (veh/h)	381			599			6	10	569	0	7	135
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	NB 1							
Volume Total	330	607	180	1069	117							
Volume Left	26	0	0	61	75							
Volume Right	0	0	180	48	22							
cSH	381	1700	1700	599	8							
Volume to Capacity	0.07	0.36	0.11	0.10	14.12							
Queue Length 95th (ft)	6	0	0	9	Err							
Control Delay (s)	2.4	0.0	0.0	3.4	Err							
Lane LOS	A			A	F							
Approach Delay (s)	0.7			3.4	Err							
Approach LOS					F							
Intersection Summary												
Average Delay			509.1									
Intersection Capacity Utilization			97.1%		ICU Level of Service				F			
Analysis Period (min)			15									

Mass. Ave. - Arlington
4: Mass. Ave. & Winter St

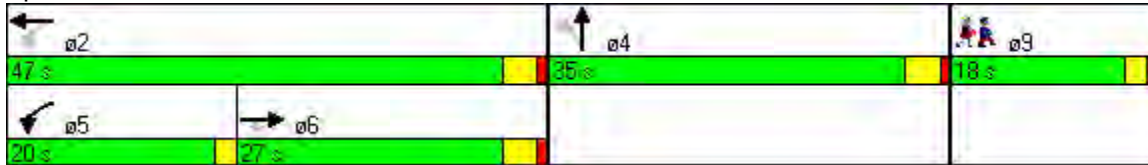
Timings
Future (2028) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width (ft)	12	11	10	11	11	12	12	10	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		75	150		0	0		75	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50		50	50				
Trailing Detector (ft)		0	0	0	0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			No			No			No			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			594			808			774	
Travel Time (s)		14.7			13.5			18.4			17.6	
Volume (vph)	0	651	105	174	684	0	297	0	207	0	0	0
Lane Group Flow (vph)	0	775	136	228	720	0	0	637	0	0	0	0
Turn Type		Perm pm+pt				Perm						
Protected Phases		6		5	2			4				
Permitted Phases			6	2			4					
Detector Phases		6	6	5	2		4	4				
Minimum Initial (s)		6.0	6.0	2.0	6.0		6.0	6.0				
Minimum Split (s)		22.0	22.0	20.0	22.0		22.0	22.0				
Total Split (s)	0.0	27.0	27.0	20.0	47.0	0.0	35.0	35.0	0.0	0.0	0.0	0.0
Total Split (%)	0.0%	27.0%	27.0%	20.0%	47.0%	0.0%	35.0%	35.0%	0.0%	0.0%	0.0%	0.0%
Yellow Time (s)		3.0	3.0	2.0	3.0		3.0	3.0				
All-Red Time (s)		1.0	1.0	0.0	1.0		1.0	1.0				
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		Min	Min	None	Min		None	None				
v/c Ratio		0.71	0.33	0.75	0.90			0.97				
Control Delay		31.1	27.1	30.8	36.7			56.5				
Queue Delay		0.0	0.0	0.0	0.0			0.0				
Total Delay		31.1	27.1	30.8	36.7			56.5				
Queue Length 50th (ft)		173	49	60	302			307				
Queue Length 95th (ft)		#360	128	149	#728			#559				
Internal Link Dist (ft)		567			514			728			694	
Turn Bay Length (ft)			75	150								
Base Capacity (vph)		1098	410	382	802			660				
Starvation Cap Reductn		0	0	0	0			0				
Spillback Cap Reductn		0	0	0	0			0				
Storage Cap Reductn		0	0	0	0			0				
Reduced v/c Ratio		0.71	0.33	0.60	0.90			0.97				
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	85.6											
Natural Cycle:	135											
Control Type:	Actuated-Uncoordinated											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	18.0
Total Split (s)	18.0
Total Split (%)	18%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	













95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Mass. Ave. & Winter St



Mass. Ave. - Arlington
4: Mass. Ave. & Winter St





















HCM Signalized Intersection Capacity Analysis
Future (2028) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↑	↑			↑↓				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	1900	1900
Lane Width	12	11	10	11	11	12	12	10	12	12	12	12
Total Lost time (s)		4.0	4.0	4.0	4.0			4.0				
Lane Util. Factor		0.95	1.00	1.00	1.00			1.00				
Frpb, ped/bikes		1.00	0.96	1.00	1.00			0.99				
Flpb, ped/bikes		1.00	1.00	1.00	1.00			0.99				
Frt		1.00	0.85	1.00	1.00			0.94				
Flt Protected		1.00	1.00	0.95	1.00			0.97				
Satd. Flow (prot)		3202	1210	1727	1587			1820				
Flt Permitted		1.00	1.00	0.17	1.00			0.97				
Satd. Flow (perm)		3202	1210	316	1587			1820				
Volume (vph)	0	651	105	174	684	0	297	0	207	0	0	0
Peak-hour factor, PHF	0.63	0.84	0.85	0.84	0.95	0.25	0.97	0.79	0.76	0.92	0.92	0.92
Growth Factor (vph)	110%	100%	110%	110%	100%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	0	775	136	228	720	0	337	0	300	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	775	136	228	720	0	0	637	0	0	0	0
Confl. Peds. (#/hr)	10		10	6		6	16		17	15		15
Confl. Bikes (#/hr)			8			19						
Heavy Vehicles (%)	0%	3%	1%	1%	3%	0%	0%	0%	1%	2%	2%	2%
Bus Blockages (#/hr)	0	0	12	0	0	0	0	0	0	0	0	0
Parking (#/hr)		2	2		2	2						
Turn Type		Perm pm+pt					Perm					
Protected Phases		6		5	2			4				
Permitted Phases			6	2			4					
Actuated Green, G (s)		29.4	29.4	43.3	43.3			31.2				
Effective Green, g (s)		29.4	29.4	43.3	43.3			31.2				
Actuated g/C Ratio		0.33	0.33	0.49	0.49			0.35				
Clearance Time (s)		4.0	4.0	2.0	4.0			4.0				
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0				
Lane Grp Cap (vph)		1069	404	314	780			645				
v/s Ratio Prot		0.24		0.08	0.45							
v/s Ratio Perm			0.11	0.28				0.35				
v/c Ratio		0.72	0.34	0.73	0.92			0.99				
Uniform Delay, d1		25.8	22.0	15.7	20.8			28.3				
Progression Factor		1.00	1.00	1.00	1.00			1.00				
Incremental Delay, d2		2.5	0.5	8.1	16.4			32.0				
Delay (s)		28.3	22.5	23.8	37.2			60.2				
Level of Service		C	C	C	D			E				
Approach Delay (s)		27.4			34.0			60.2			0.0	
Approach LOS		C			C			E			A	
Intersection Summary												
HCM Average Control Delay			38.3			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			88.1			Sum of lost time (s)			13.6			
Intersection Capacity Utilization			77.7%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

Mass. Ave. - Arlington
5: Mass. Ave. & Teel St

Timings
Future (2028) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50		50	50	
Trailing Detector (ft)	0	0			0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		915			929			555			508	
Travel Time (s)		20.8			21.1			12.6			11.5	
Volume (vph)	12	716	0	0	928	8	30	3	19	0	0	12
Lane Group Flow (vph)	0	805	0	0	1011	0	0	74	0	0	26	0
Turn Type	Perm						Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Detector Phases	6	6			2		4	4		8	8	
Minimum Initial (s)	36.0	36.0			36.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	40.0	40.0			40.0		10.0	10.0		8.0	8.0	
Total Split (s)	63.0	63.0	0.0	0.0	63.0	0.0	10.0	10.0	0.0	10.0	10.0	0.0
Total Split (%)	70.0%	70.0%	0.0%	0.0%	70.0%	0.0%	11.1%	11.1%	0.0%	11.1%	11.1%	0.0%
Yellow Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max			Max		None	None		None	None	
v/c Ratio		0.34			0.77			0.61			0.06	
Control Delay		3.6			12.2			48.7			0.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.6			12.2			48.7			0.3	
Queue Length 50th (ft)		32			150			22			0	
Queue Length 95th (ft)		137			#813			#65			0	
Internal Link Dist (ft)		835			849			475			428	
Turn Bay Length (ft)												
Base Capacity (vph)		2358			1320			121			412	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.34			0.77			0.61			0.06	
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	85.8											
Natural Cycle:	90											
Control Type:	Semi Act-Uncoord											

Lane Group	ø9
Lane Configurations	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Total Lost Time (s)	
Leading Detector (ft)	
Trailing Detector (ft)	
Turning Speed (mph)	
Right Turn on Red	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Volume (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phases	
Minimum Initial (s)	6.0
Minimum Split (s)	17.0
Total Split (s)	17.0
Total Split (%)	19%
Yellow Time (s)	2.0
All-Red Time (s)	1.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	





















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Mass. Ave. & Teel St

← 02	↑ 04	09
68 s	10 s	17 s
→ 06	↓ 08	
63 s	10 s	





















Mass. Ave. - Arlington
5: Mass. Ave. & Teel St

HCM Signalized Intersection Capacity Analysis
Future (2028) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	12	12	12	12	12	12
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.98			0.92	
Flpb, ped/bikes		1.00			1.00			0.97			1.00	
Frt		1.00			1.00			0.95			0.86	
Flt Protected		1.00			1.00			0.97			1.00	
Satd. Flow (prot)		3217			1617			1670			1518	
Flt Permitted		0.93			1.00			0.80			1.00	
Satd. Flow (perm)		2984			1617			1380			1518	
Volume (vph)	12	716	0	0	928	8	30	3	19	0	0	12
Peak-hour factor, PHF	0.75	0.91	0.92	0.92	0.93	0.67	0.75	0.75	0.79	0.92	0.92	0.50
Growth Factor (vph)	110%	100%	110%	110%	100%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	18	787	0	0	998	13	44	4	26	0	0	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	22	0	0	24	0
Lane Group Flow (vph)	0	805	0	0	1011	0	0	52	0	0	2	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Confl. Bikes (#/hr)			6			32			1			
Heavy Vehicles (%)	0%	3%	2%	2%	2%	0%	0%	0%	0%	2%	2%	0%
Parking (#/hr)		0	0		0	0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			4			8	
Permitted Phases	6						4			8		
Actuated Green, G (s)		69.4			69.4			5.4			5.4	
Effective Green, g (s)		69.4			69.4			5.4			5.4	
Actuated g/C Ratio		0.78			0.78			0.06			0.06	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2340			1268			84			93	
v/s Ratio Prot					c0.62						0.00	
v/s Ratio Perm		0.27						c0.04				
v/c Ratio		0.34			0.80			0.62			0.02	
Uniform Delay, d1		2.8			5.5			40.6			39.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.4			5.3			13.6			0.1	
Delay (s)		3.2			10.8			54.1			39.1	
Level of Service		A			B			D			D	
Approach Delay (s)		3.2			10.8			54.1			39.1	
Approach LOS		A			B			D			D	
Intersection Summary												
HCM Average Control Delay			9.7			HCM Level of Service				A		
HCM Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			88.5			Sum of lost time (s)			13.7			
Intersection Capacity Utilization			66.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

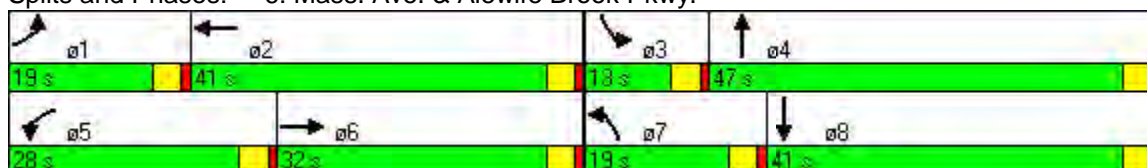
Timings
Future (2028) Build PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		15%			0%			0%			0%	
Storage Length (ft)	75		0	0		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		929			689			656			574	
Travel Time (s)		21.1			15.7			14.9			13.0	
Volume (vph)	118	531	98	312	579	88	173	827	288	96	677	113
Lane Group Flow (vph)	123	705	0	335	737	0	199	1242	0	128	918	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Detector Phases	1	6		5	2		7	4		3	8	
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		8.0	20.0		8.0	20.0	
Total Split (s)	19.0	32.0	0.0	28.0	41.0	0.0	19.0	47.0	0.0	13.0	41.0	0.0
Total Split (%)	15.8%	26.7%	0.0%	23.3%	34.2%	0.0%	15.8%	39.2%	0.0%	10.8%	34.2%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	Max		None	Max		None	None		None	None	
v/c Ratio	0.71	0.95		0.96	0.66		0.93	0.99		0.96	0.85	
Control Delay	73.0	66.5		86.6	37.7		99.2	60.0		122.3	46.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	73.0	66.5		86.6	37.7		99.2	60.0		122.3	46.6	
Queue Length 50th (ft)	92	276		259	255		155	484		101	343	
Queue Length 95th (ft)	158	#398		#443	328		#286	#646		#171	407	
Internal Link Dist (ft)		849			609			576			494	
Turn Bay Length (ft)	75											
Base Capacity (vph)	199	744		350	1119		213	1255		134	1085	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.62	0.95		0.96	0.66		0.93	0.99		0.96	0.85	
Intersection Summary												
Area Type:	Other											
Cycle Length:	120											
Actuated Cycle Length:	120											
Natural Cycle:	100											
Control Type:	Actuated-Uncoordinated											

95th percentile volume exceeds capacity, queue may be longer.





















Queue shown is maximum after two cycles.

Splits and Phases: 6: Mass. Ave. & Alewife Brook Pkwy.



Mass. Ave. - Arlington
6: Mass. Ave. & Alewife Brook Pkwy.

HCM Signalized Intersection Capacity Analysis
Future (2028) Build PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		15%			0%			0%			0%	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1614	3109		1752	3402		1703	3406		1787	3478	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1614	3109		1752	3402		1703	3406		1787	3478	
Volume (vph)	118	531	98	312	579	88	173	827	288	96	677	113
Peak-hour factor, PHF	0.96	0.94	0.70	0.93	0.93	0.77	0.87	0.92	0.84	0.75	0.87	0.81
Adj. Flow (vph)	123	565	140	335	623	114	199	899	343	128	778	140
RTOR Reduction (vph)	0	18	0	0	12	0	0	33	0	0	12	0
Lane Group Flow (vph)	123	687	0	335	725	0	199	1209	0	128	906	0
Confl. Peds. (#/hr)	8		9	12		13	5		4	1		2
Confl. Bikes (#/hr)			8			30						
Heavy Vehicles (%)	0%	3%	5%	3%	3%	1%	6%	1%	1%	1%	1%	1%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	12.9	28.0		24.0	39.1		15.0	43.0		9.0	37.0	
Effective Green, g (s)	12.9	28.0		24.0	39.1		15.0	43.0		9.0	37.0	
Actuated g/C Ratio	0.11	0.23		0.20	0.33		0.12	0.36		0.08	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	174	725		350	1108		213	1220		134	1072	
v/s Ratio Prot	0.08	c0.22		c0.19	0.21		c0.12	c0.35		0.07	0.26	
v/s Ratio Perm												
v/c Ratio	0.71	0.95		0.96	0.65		0.93	0.99		0.96	0.84	
Uniform Delay, d1	51.7	45.3		47.5	34.7		52.0	38.3		55.3	38.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.3	22.7		36.5	3.0		43.3	23.4		63.5	6.2	
Delay (s)	64.0	68.0		84.0	37.7		95.3	61.7		118.8	45.1	
Level of Service	E	E		F	D		F	E		F	D	
Approach Delay (s)		67.4			52.2			66.4			54.1	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM Average Control Delay			60.2			HCM Level of Service				E		
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			86.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

2018 No Build
Queue Lengths
(in feet)



2028 No Build
Queue Lengths
(in feet)



2018 Build Queue Lengths (in feet)



AM Queue
PM Queue
95th Percentile
Scale: Not to Scale

2028 Build
Queue Lengths
(in feet)



CITED DOCUMENTS

MEMORANDUM

DATE: February 10, 2009

TO: Ms. Laura Weiner, Town of Arlington Town Planner

FROM: John Michalak, PE; Douglas C. Prentiss, P.E., PTOE

SUBJECT: Massachusetts Avenue Traffic Information

INTRODUCTION

This memo is intended to provide some support materials and data for some of the traffic/transportation elements of our Massachusetts Avenue Corridor project. As required by MassHighway in their review, all of our analyses and procedures must follow the following three standard documents. These documents are:

- *Project Development and Design Guide*; MassHighway; 2006;
- *Manual on Uniform Traffic Control Devices*; Federal Highway Administration; 2003; and
- *Highway Capacity Manual*; Transportation Research Board; 2000

The following traffic/transportation data are presented to support our concept plan presented in previous meetings.

TRAFFIC/TRANSPORTATION DATA

During the data collection period in October 2008, the following traffic data were collected along the corridor at study area intersections. The peak hours were generally determined to be 7:30-8:30AM, 5-6PM and 11:45AM-12: 45PM on a Saturday.

TABLE 1 – Existing 2008 Traffic Volumes Entering Area Intersections (all approaches)

Intersection	AM Peak Hour (vph)	PM Peak Period (vph)
Mass Ave/Alewife Brook Pkwy	3,716	3,545
Mass Ave/Lake/Winter	2,210	2,005
Mass Ave/Bates/Marion	1,945	1,191
Mass Ave/Grafton/Orvis	1,917	1,880
Mass Ave/Foster/Linwood	1,692	1,714
Mass Ave/Thorndike/Teel	1,633	1,579

vph=vehicles per hour entering intersection

TABLE 2 – Existing 2008 24-Hour and Hourly Summary

Traffic Count Location	Average Daily Traffic (VPD)	Peak Hour (vph)			
		AM	PM	Sat	K (%)
Foster St, North of Mass Ave	810	80	70	80	9.2
Mass Ave, west of Foster/Linwood	17,300	1,587	1,635	1,560	9.3
Mass Ave, east of Foster/Linwood	14,300	1,616	1,635	1,570	11.4
Lake St, south of Mass Ave	8,950	787	770	569	11.5
Mass Ave, west of Lake/Winter	16,400	1,785	1,551	1,630	10.2
Mass Ave, east of Lake/Winter	15,100	1,663	1,593	1,254	10.8
Mass Ave, west of Thorndike/Teel	14,600	1,598	1,519	1,206	10.7
Mass Ave, east of Thorndike/Teel	15,900	1,575	1,522	1,202	9.8
Teel St, north of Mass Ave	430	41	35	50	8.9
Thorndike St, south of Mass Ave	490	52	52	41	10.6

VPD=vehicles per day; vph=vehicles per hour; k = percentage of peak hour volume vs. 24-hour volume

TABLE 3 – Existing 2008 Pedestrian Crossings at Area Intersections (all approaches)

Intersection	Peak Period (pph)	
	AM Peak Hour (pph)	PM Peak Period (pph)
Mass Ave/Alewife Brook Pkwy	71	54
Mass Ave/Lake/Winter	132	95
Mass Ave/Bates/Marion	9	38
Mass Ave/Grafton/Orvis	57	54
Mass Ave/Foster/Linwood	49	55
Mass Ave/Thorndike/Teel	45	44

pph=pedestrians per hour

TABLE 4 – Existing 2008 Bicycle Volumes Entering Area Intersections (all approaches)

Intersection	Peak Period (bph)	
	AM Peak Hour (bph)	PM Peak Period (bph)
Mass Ave/Alewife Brook Pkwy	62	38
Mass Ave/Lake/Winter	58	35
Mass Ave/Bates/Marion	48	39
Mass Ave/Grafton/Orvis	59	42
Mass Ave/Foster/Linwood	51	34
Mass Ave/Thorndike/Teel	69	40

bph=bicycles per hour entering intersection

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SERVICE VOLUMES FOR URBAN ROADWAYS

The Highway Capacity Manual (HCM) notes traffic volumes for various types of urban roadways (2-lane, 3-lane and 4-lane). Noted below is a general guide for urban roadways:

- 2-lane roadway 1,470 – 1,770 vehicles per hour
- 3-lane roadway 2,280 – 2,660 vehicles per hour
- 4-lane roadway 3,090 – 3,550 vehicles per hour

From our traffic data collected, we recorded an existing range of 1,600 – 1,800 vehicles per hour during the peak periods. For the 2018 condition, Massachusetts Avenue is projected to carry 1,650 – 2,000 vehicles during the peak commuter period. Thus a 3-lane cross section is supported at selected locations along the corridor where exclusive turn lanes are not provided. Reference is also made to *Urban Street-Geometric Design Handbook*, published by the Institute of Transportation Engineers for a variety of roadway types for in urban settings.

Other roadways in the area that are characteristic to Mass Avenue in East Arlington and carry similar traffic volumes are: Mass Ave in Lexington Center, Concord Avenue in Belmont and Route 62 at the Acton Town line in Concord.

SIGNAL WARRANT ANALYSIS

To determine if traffic signals are warranted along the corridor, the criteria in the Manual on Uniform Traffic Control Devices (MUTCD) was examined. Eight warrants are listed and include an assessment of vehicle volumes, school crossing conditions, pedestrian crossing volumes and roadway and intersection conditions. Details of these eight warrants can be found in the MUTCD. The locations reviewed included the three existing traffic signals at Foster/Linwood, Lake Street and Teel/Thorndike. In addition, we reviewed the unsignalized locations of Bates/Marion and Orvis/Grafton. The following was noted:

Signal Warrants satisfied:

- Massachusetts Avenue/Lake Street - multiple warrants satisfied
- Massachusetts Avenue/Bates/Marion - four warrants satisfied
- Massachusetts Avenue/Orvis/Grafton - one warrant satisfied

Signal or Pedestrian Warrants not satisfied

- Massachusetts Avenue/Foster/Linwood - neither vehicular or pedestrian
- Massachusetts Avenue/Teel/Thorndike - neither vehicular or pedestrian

MITIGATION

Based on an analysis of traffic volumes, bicycle and pedestrian volumes, input from the TAC,

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residents and Town officials, the following is recommended:

- Upgrade the traffic signal at Lake Street to provide improved timing and phasing and provide designated lanes for through and turning traffic. With the signal and roadway upgrade, the vehicle delays and queues at this location will be reduced;
- Install a new fully actuated traffic signal at the intersection of Massachusetts Avenue/Bates Road/Marion Road and include pedestrian accommodations and appropriate turn lanes. With the signal and roadway upgrade, the vehicle delays and queues at this location will be reduced.
- Remove the traffic signals at Massachusetts Avenue/Foster Street /Linwood Street and at Massachusetts Avenue/Teel Street/Thorndike Street, as neither location meets traffic signal or pedestrian warrants, as mandated by the MUTCD and MassHighway. These signals have been in place for over 50 years and originally served the Gibbs School and the old junior high school.

As land uses have changed along the corridor over the years and new traffic patterns established, the new corridor plan developed addresses existing and future needs of pedestrians, bicyclists and vehicles.



FAY, SPOFFORD & THORNDIKE

MEMORANDUM

DATE: May 8, 2009

TO: Ms. Laura Weiner, Town of Arlington Town Planner

FROM: John Michalak, PE; Douglas C. Prentiss, P.E., PTOE

SUBJECT: Traffic Signal Warrant Criteria-Massachusetts Avenue

INTRODUCTION

This memo is intended to provide support documentation and data for understanding the criteria or warrants required by MassHighway to justify a traffic or pedestrian signal on local and State roadways. Signals should be provided only when the advantages outweigh the disadvantages, even when one or more warrants are met. Specific reference is made to the following two documents.

- *Manual on Uniform Traffic Control Devices*; Federal Highway Administration; 2003
- *Project Development and Design Guide*; MassHighway; 2006;

The Manual on Uniform Traffic Control Devices (MUTCD) is the federal document used nationwide, and adopted by MassHighway, to provide guidance for traffic signal evaluation.

TRAFFIC SIGNAL WARRANTS

The MUTCD lists a total of eight (8) warrants, which are summarized in Table 1 below. Comparative analysis results for the Massachusetts Ave intersections at Foster/Linwood, Bates/Marion, Grafton/Orvis, Lake/Winter and Teel/Thorndike are presented. The through traffic volumes along Massachusetts Ave are referred to as the major street volumes in the MUTCD. The MUTCD also refers to the minor street, which would be the cross or intersecting streets along Massachusetts Ave.

Table 1 - Traffic Signal Warrant Summary - Mass Ave - Arlington

Warrant	MUTCD Requirements	Intersection +				
		Foster/Linwood	Bates/Marion	Grafton/Orvis	Lake/Winter	Teel/Thorndike
#1. - 8 Hour Vehicular Volume	Condition A – Minimum Vehicle Volume for any 8 hours of the day -Required for Mass Ave: 600 vph (total) -Required for side streets: 150-200 vph (one direction only)	Foster = 98, 115, 46, 44 vph Linwood = 21, 55, 32, 39 vph Mass = 1217,1533, 1301, 1601 vph <i>Not Met</i>	Bates = 343, 335, 166, 217 vph Marion = 13, 18, 19, 26 vph Mass = 1237,1582, 1455,1665 vph <i>Met (Bates)</i>	Orvis = 137, 121, 108, 156 vph Grafton = NA Mass = 1509,1824, 1468, 1793 vph <i>Not Met</i>	Lake = 423, 424, 364, 391 vph Winter = NA Mass = 1481,1677, 1280, 1503 vph <i>Met (Lake)</i>	Teel = 21, 27, 26, 25 vph Thorndike = 40, 48, 30, 52 vph Mass = 1368, 1508, 1264, 1515 vph <i>Not Met</i>
	Condition B – Interruption of Continuous Traffic -Required for Mass Ave: 900 vph (total) Required for side streets: 75-100 vph (one direction only)	<i>Not Met</i>	<i>Met</i>	<i>Met</i>	<i>Met</i>	<i>Not Met</i>
#2. - 4 Hour Vehicular Volume	Each of any 4 hours, the minor street volume is greater than 80 vph (one direction only) and the total major street volume is over 1350 vph (total)	<i>Not Met</i> (see volumes above)	<i>Met</i> (see volumes above)	<i>Not Met</i> (see volumes above)	<i>Met</i> (see volumes above)	<i>Not Met</i> (see volumes above)

vph = vehicles per hour ; pph = pedestrians per hour; NA = not applicable due to one-way traffic flow out of intersection ; + one-way hourly traffic volumes shown for side streets; ++ gap defined as sufficient break or length in the traffic stream between vehicles to allow pedestrians to cross safely

Table 1 - Traffic Signal Warrant Summary (Continued) - Mass Ave - Arlington

Warrant	MUTCD Requirements	Foster/Linwood	Bates/Marion	Grafton/Orvis	Lake/Winter	Teel/Thorndike
#3. – Peak Hour	For one hour, the minor street volume is greater than 100 vph (one direction only) and the total major street volume is over 1700 vph	<i>Not Met</i> (see volumes above)	<i>Met</i> (see volumes above)	<i>Not Met</i> (see volumes above)	<i>Met</i> (see volumes above)	<i>Not Met</i> (see volumes above)
#4. - Pedestrian Volume	Pedestrian volume crossing the major street must be at least 100 for each of any 4 hours, or 190 for any one hour, <u>and</u> there are fewer than 60 gaps++ on Mass Ave to cross	Mass Ave = 45, 37, 42, 65 pph <i>Not Met</i>	Mass Ave = 1, 8, 0, 0 pph <i>Not Met</i>	Mass Ave = 9, 11, 3, 0 pph <i>Not Met</i>	Mass Ave = 60, 48, 104, 130 pph <i>Not Met</i>	Mass Ave = 37, 27, 24, 19 pph <i>Not Met</i>
#5. – School Crossing	A minimum of 20 students crossing Mass Ave during the highest hour	<i>Not Met</i>	<i>Not Met</i>	<i>Not Met</i>	<i>Not Met</i>	<i>Not Met</i>
#6. – Coordinated Signal System	Adjacent traffic signals do not provide the necessary degree of coordination for progressive operation	<i>Not Met</i>	<i>Not Met</i>	<i>Not Met</i>	<i>Not Met</i>	<i>Not Met</i>
#7. – Crash Experience	Location where a traffic signal installation would correct a crash history	<i>Not Met</i> (Crash rate below state average)	<i>Not Met</i> (Crash rate below state average)	<i>Not Met</i> (Crash rate below state average)	<i>Not Met</i> (Crash rate below state average)	<i>Not Met</i> (Crash rate below state average)
#8. – Roadway Network	Intersection of two major routes	<i>Not Met</i>	<i>Not Met</i>	<i>Not Met</i>	<i>Met</i>	<i>Not Met</i>

MEMORANDUM

DATE: June 9, 2009

TO: Ms. Laura Wiener, Town of Arlington Town Planner

FROM: John Michalak, P.E.; Douglas C. Prentiss, P.E., PTOE

SUBJECT: Regional Traffic Volume Comparison from State Count Stations

This memo is in response to an inquiry at the recent Design Review Committee meeting regarding traffic volume data taken at different times of the year, specifically during the winter season.

The Massachusetts Highway Department (MassHighway) has traffic data available from permanent count stations in operation 365 days/year.¹ This data is reported monthly. The following two stations are closest to the Mass. Ave. project location and are used to represent the fluctuations experienced in traffic volumes regionally over the course of the year:

Station 4798 - Lexington (Route 2 west of Pleasant Street) 1996 - 2005 (not inclusive)

Average Monthly Volume =	71,064 VPD*
October Volumes =	+4% Higher than average
December Volumes =	-1.5% Lower than average
May Volumes =	+3.9% Higher than average

VPD=vehicles per day*

Station 8099 - Medford (Route I-93 between Harvard St. and Route 38) 2002 - 2006

Average Monthly Volume =	167,528 VPD*
October Volumes =	+1.8% Higher than average
December Volumes =	-3.3% Lower than average
May Volumes =	+1.2% Higher than average

VPD=vehicles per day*

Comparing the above regional traffic data from MassHighway count stations to the October 2008 and May 2009 traffic counts conducted on Mass. Ave. shows that fluctuations in traffic volumes between these two months is consistent with state averages. We are confident that traffic volumes on Mass. Ave. during different times of the year would experience similar fluctuations to those seen at MassHighway count station locations.

¹ These stations are referred to as "continuous counting stations".

MEMORANDUM

DATE: June 22, 2009

TO: Laura Wiener, Town of Arlington Senior Planner

FROM: John Michalak, P.E.; Douglas C. Prentiss, P.E., PTOE

SUBJECT: Cut Through Traffic and Traffic Calming Measures

INTRODUCTION

This memo is in response to our discussion at the Mass. Ave. Review Committee meeting on June 16, 2009 about cut-through traffic on adjacent streets to Mass. Ave. Presently there are many federal, state, regional publications and web sites that deal with the diversion of through traffic into residential neighborhoods and slowing traffic on selected roadways. The method by which traffic is slowed is often referred to as *traffic calming*. Information on traffic calming can be found in Chapter 16 of the MassHighway Design Guide¹, the Institute of Transportation Engineers² report on traffic calming, and www.trafficcalming.org.

MEASURES

In the Commonwealth, the City of Cambridge leads the state in implementing traffic calming measures. Historically the City has developed a program for the annual funding of such measures citywide. Information related to the City of Cambridge projects and a description of traffic calming can be found on their web page at: <http://www.cambridgema.gov/CDD/et/tc/index.html>. One example of a near-by traffic-calming device, a speed table, can be found in Cambridge on Rindge Avenue at the Yerxa Rd/Hollis Street intersection. This location is about one mile from the Mass. Ave./Alewife Brook Parkway intersection.

Other examples of measures taken to protect residential streets from diverted or cut through traffic include, but are not limited to, making streets one-way, prohibiting turns, dead ending streets or installing traffic calming devices such as:

- Speed humps and speed tables
- Diverter islands
- Chicanes and chokers (curb extensions that alternate from one side of the street to the other)
- Rumble strips
- Traffic circles
- Median barriers

¹ Project Development & Design Guide; MassHighway 2006 can be found at <http://www.mhd.state.ma.us/default.asp?pgid=content/designGuide&sid=about>

² Traffic Calming State of the Practice: An Informational Report; Institute of Transportation Engineers; January 1999

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A list of traffic calming devices endorsed by MassHighway can be found in Exhibit 16-2 of the *Design Guide*. Note the installation of "STOP" signs is not considered traffic calming, and when placed in an unwarranted location may cause liability issues for the community.

APPLICATION

The issue of cut through traffic on residential streets along the Mass. Ave. project corridor has been a concern since the onset of the project. While there is evidence of cut through traffic today, the proposed design improvements will improve traffic flow along Mass. Ave., and therefore not promote additional cut through traffic. There is a reasonable expectation that cut through traffic on side streets could increase temporarily during certain construction stages of the Mass. Ave. project. In response to existing cut through conditions, and in anticipation of a possible increase during construction, the Town may decide to conduct further study, design, and ultimately install traffic calming devices on select residential streets.

CONCLUSION

The Engineers believe that there will not be a significant increase in traffic on side streets resulting from this project. However, if the Town of Arlington chooses to develop a traffic-calming program, because of concerns about increased cut throughs during construction or after, it should be a cooperative effort between Town Departments, including Public Works and Public Safety, and affected residents and neighborhood groups. Physical issues that must be considered when implementing traffic calming include drainage structures, pedestrian amenities, lighting, adjacent driveways, location of utilities, land use and construction costs. It is also recommended that a before and after assessment be conducted if any measures are to be considered.

The most effective location for the installation of traffic calming devices along side streets would be beyond the limit of the survey conducted for the Mass. Ave. project. Since the locations for traffic calming devices are not within the Mass. Ave. corridor project area, such improvements would have to be designed and/or installed under a separate Town project.

MEMORANDUM

TO: QA-013 (file)

FROM: Alan Cloutier, P.E., PTOE

DATE: August 2, 2010

SUBJECT: Lake Street Short Lane Analysis Methodology

INTRODUCTION

This memo is intended to provide a summary of adjustments to the capacity analysis methods used to analyze the Lake Street approach to Mass Ave. Currently, Lake Street is wide enough to enable a right turning vehicle to bypass left-turning/through vehicles for approximately 75 feet. Essentially, this approach operates as if there is a short exclusive right turn lane. The initial analysis of this intersection was conducted using one single standard 12-foot wide lane on this approach for both No Build and Build Conditions, which actually understates the capacity of this approach.

The Highway Capacity Manual does not provide any specific methodology to account for additional capacity associated with a short lane at a signalized intersection. In an effort to provide a more accurate analysis, FST applied an adjustment to the analysis to account for the second “short lane”.

ADJUSTMENTS

Since it would not be accurate to code the No Build or Build conditions as having a full second lane, the Saturation Flow Rate was adjusted to account for the additional capacity provided by this defacto short lane. For the condition where a second lane can be accommodated for 75 feet, the equivalent saturation flow rate was calculated to be 2200 pc/lh/hr. This is based on an additional saturation flow rate of 300 pc/lh/hr to the standard 1900 pc/lh/hr. For this calculation, it was assumed an additional 3 vehicles per cycle are accommodated each of the 45 cycles per hour for a total of 135 vehicles per hour. This would be divided by the G/C ratio to arrive at a base flow rate for the short lane. To account for uneven split of left/through vehicles versus rights on the approach and the possibility of the short lane being blocked, the base flow was further reduced using the ratio of 0.41/0.50 derived from the PM peak hour volumes, which is when the left turn flow is highest.

The resulting adjustment to the saturation flow rate for the Lake Street approach is computed as follows:

$$\begin{array}{lcl} \text{Right} = & 135/0.34 & * 0.41/0.50 = 325 \text{ say } 300 \\ \text{Left} = & & \underline{1,900} \\ & & 2,200 \text{ pc/lh/hr} \end{array}$$

August 2, 2010

In the situation where the widened section of Lake Street were extended to provide a total of 150 feet of short right turn lane, the adjusted saturation flow rate be 2,500 pc/ln/hr based on the following:

$$\begin{array}{lcl} \text{Right} = & 270/0.34 * 0.41/0.50 = 650 & \text{say } 600 \\ \text{Left} = & & \frac{1,900}{2,500} \text{ pc/ln/hr} \end{array}$$



FAY, SPOFFORD & THORNDIKE

MEMORANDUM

DATE: August 24, 2009

TO: Laura Wiener, Town of Arlington Senior Planner

FROM: John Michalak, P.E.

SUBJECT: Summary of Meetings

The following is a summary of committee meetings and public presentations to date including meetings attended with the Design Review Committee and the Board of Selectmen.

August 27, 2008	Kick-off Meeting w/ Town
September 2, 2008	Design Review Committee Meeting <ul style="list-style-type: none">• Identified Committee responsibilities
September 13, 2008	Design Review Committee Meeting <ul style="list-style-type: none">• Saturday Morning Site Walk
September 17, 2008	Design Review Committee Meeting <ul style="list-style-type: none">• Preparation for Public Information Meeting
October 1, 2008	Public Information Meeting - Senior Center
October 7, 2008	Design Review Committee Meeting <ul style="list-style-type: none">• Review of comments received at 10/01/08 meeting• Preparation for Public Workshop
October 23, 2008	Interactive Public Workshop - Town Hall
January 8, 2009	Design Review Committee Meeting <ul style="list-style-type: none">• Review of comments from workshop• Design recommendations from the committee
January 21, 2009	Design Review Committee Meeting <ul style="list-style-type: none">• Presentation of recommended plan• Presentation of traffic simulations• Preparation for Public Information Meeting

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- | | |
|-------------------|--|
| February 5, 2009 | Public Information Meeting - Town Hall <ul style="list-style-type: none">• Presented concept plans representative of Town's design goals and objectives while incorporating comments from public process to date• |
| February 24, 2009 | Meeting with MassHighway - Boston <ul style="list-style-type: none">• Discussion about angled parking alternatives• MassHighway stressed project would jeopardize Federal funding if angled parking stalls were proposed for this type of roadway (arterial roadway with high speeds and traffic volumes) |
| February 26, 2009 | Business Owners Meeting - Capitol Theatre <ul style="list-style-type: none">• Discussion of business owners concerns |
| March 5, 2009 | Business Owners Meeting - Capitol Theatre <ul style="list-style-type: none">• Meeting with individual business owners to discuss concerns and investigate design solutions |
| March 19, 2009 | Design Review Committee Meeting <ul style="list-style-type: none">• Review of Preliminary Plans• Design recommendations from the committee |
| April 6, 2009 | Design Review Committee Meeting <ul style="list-style-type: none">• Preparation for Public Presentation |
| April 7, 2009 | Board of Selectmen Meeting with Business Owners - Fox Library <ul style="list-style-type: none">• BOS fielded questions from audience |
| April 28, 2009 | Board of Selectmen Meeting - Hardy School <ul style="list-style-type: none">• Public Information Meeting |
| May 11, 2009 | Board of Selectmen Meeting - Town Hall <ul style="list-style-type: none">• Project Update and Q&A |
| May 29, 2009 | Meeting with MassHighway - District 4 <ul style="list-style-type: none">• Discussion about maintaining existing signals that do not meet State and Federal Signal Warrants• MassHighway said they may allow the Town to maintain existing signals at Foster/Linwood and Teel/Thorndike |
| June 2, 2009 | Design Review Committee Meeting <ul style="list-style-type: none">• Presented revised plans• Discussion of next steps to move project forward |
| June 16, 2009 | Design Review Committee Meeting <ul style="list-style-type: none">• Presentation of traffic data and analysis |

August 24, 2009

- June 24, 2009 Design Review Committee Meeting
- Presentation of revised plans
 - Review Committee voted to present plans to BOS
- August 10, 2009 Board of Selectmen Meeting - Town Hall
- Presentation of 25% Plans
 - Selectmen voted to submit plans to MassHighway for review

MEMORANDUM

TO: QA-013 (file)

FROM: Douglas C. Prentiss, P.E., PTOE/Sarah E. Weimer

DATE: September 2010

SUBJECT: Proposed Background Developments' Traffic Volumes

INTRODUCTION

This memo has been prepared as an assessment of developments projects that could possibly add traffic to the Massachusetts Avenue corridor project. We are in receipt of information about the following developments:

- Proposed Mill Street Residential & Retail Development at 30-50 Mill Street
- Symmes Hospital Redevelopment
- MBTA Green Line Extension DEIR
- Cambridge Discovery Park at Acorn Park
- CVS at Massachusetts Avenue
- Belmont Uplands in Belmont.

The purpose of this memo is to explain how new development trips would be added into the No Build and Build volumes.

MILL STREET RESIDENTIAL AND RETAIL DEVELOPMENT

The Mill Street development is located at 30-50 Mill Street in Arlington, MA at the existing site of the unoccupied Brigham's office building, warehouse, restaurant, and parking lot. The project site is bounded by the Minuteman Commuter Bikeway and various retail businesses to the north. To the east is a hardware store/office building, with additional residential uses across Mill Street. Directly to the south is #22 Mill Street and associated parking garage and a Town of Arlington park. To the west is Arlington High School. The site has one direct paved access from Mill Street. The proposed development will include a 116-unit building with parking below and an adjacent 1-story retail building.

The traffic study¹ prepared for the project by MS Transportation Systems/New England Engineering Group focused on Mill Street and the key intersections along the roadway. It is estimated that the project will generate 966 daily vehicle trips, 55 vehicle trips during the AM peak hour and 84 PM peak hour vehicle trips. Based on its location and availability of the Minuteman Commuter Bikeway and MBTA service, it is expected that a significant portion of

¹ *Traffic Impact and Access Study Proposed Mill Street Residential and Retail Development 30-50 Mill Street Arlington, MA*; MS Transportation Systems/New England Engineering Group; April 2010.

person trips will be made by non-auto modes. The analysis in the study showed that the project would have a minimal effect on the traffic operations at the study intersections, although certain movements at the Massachusetts Avenue intersection would experience long delays during peak hours in the future regardless of the project. However, capacity exists on the abutting streets to accommodate the added project traffic.

From comparing the differences in future No Build and Build volumes, the proposed additional trips to and from Massachusetts Avenue associated with this development project were determined. The result being that the number of additional trips to/from Massachusetts Avenue in the morning and evening peak periods are on the order of 7-9 vehicle trips. Upon review of peak period traffic patterns along Massachusetts Avenue, a 52%/48% split is seen. This split is further broken down at the Route 60 intersection as follows:

- 9% of trips from east of the site come from Route 60 southbound
- 11% of trips from east of the site come from Route 60 northbound
- 80% of trips from east of the site come from Massachusetts Avenue

Based on the preceding analysis, this would indicate approximately 2 peak period trips per direction would be traveling along the Massachusetts Avenue corridor east of Route 60. These trips are further distributed at the Franklin Street/Massachusetts Avenue intersection. As a result it has been determined that the proposed development adds a small number of new trips to the Massachusetts Avenue corridor within the project limits and that these additional trips have adequately been accounted for in traffic projections by the background growth rate.

SYMME'S HOSPITAL REDEVELOPMENT

The Symmes Hospital Redevelopment is located in Arlington, MA on Hospital Road at Summer Street on the site of the former Symmes Hospital. The development is bounded by Summer Street to the south and Woodside Lane to the north. The proposed development will include up to 275 residential housing units and 40,000 square feet of medical outpatient medical space. The traffic study² prepared for the project by Howard/Stein-Hudson Associates, Inc. included two alternatives for traffic flow. Option 2 was used for the proposed volumes associated with the new development.

The new development is anticipated to generate approximately 198 trips (85 entering and 113 exiting) in the morning peak period and 263 trips (125 entering and 138 exiting) in the evening peak period. The majority of the new trips will come from north of the development on Mystic Valley Parkway. Trips that would potentially travel through the Massachusetts Avenue Corridor are the ones that travel southbound on Mill Street of which there are estimated to be 14 new trips in the morning peak period and 40 in the evening peak period. Upon review of peak period traffic patterns along Massachusetts Avenue, a 52%/48% split is observed. This split is further broken down at the Route 60 intersection as noted above in the discussion of the Mill Street development project.

Based on this split, 6 trips per direction would be traveling along the Massachusetts

² *Symmes Hospital Redevelopment Transportation Overview*; Howard/Stein-Hudson Associates, Inc.; September 13, 2004.

Avenue corridor in the AM and 16 in the PM. Since the Symmes Hospital is over away these trips are further dispersed on the roadway network before they get to the study corridor. As a result it has been determined that this development project is expected to add negligible new traffic volumes to the Massachusetts Avenue corridor within the project limits and that these trips are accounted for in the background growth rate.

MBTA GREEN LINE EXTENSION PROJECT

The Green Line Extension Project is planned to improve transit service, mobility and regional access for residents and visitors in Cambridge, Somerville, and Medford. The stations will be designed for access by foot, bicycle, and where appropriate, short-term vehicular drop-off/pick-up. Stations are proposed at the following locations:

- Lechmere Station
- Brickbottom Station
- Gilman Square Station
- Lowell Street Station
- Ball Square Station
- College Avenue Station
- Union Square Station

FST performed a peer review³ of the Medford section of the EA/DEIR in December 2009. The EA/DEIR made an assumption that drop-off/pick-up riders will comprise only five percent of the ridership at each station. That being said, the impact of the development will have insignificant effects on the Massachusetts Avenue corridor as the majority of vehicle trips are likely to come from the northwest. Also in consideration is the close proximity of Alewife Station on the Red Line. It is our reasoning that commuters would still continue to travel to Alewife Station where it is shorter in travel distance and has an abundance of parking. We have concluded that the five percent of drop-off/pick-up riders in our future No Build networks would be included in the background growth rate. Reference is also made to FST memo dated 9/13/10, which indicates that the Alewife Red Line station is 0.73 miles away from the east of the Mass Ave corridor project at Route 16, while the project terminus is 1.47 miles away via a *backtracking* maneuver to/from the proposed College Avenue Station stop and 1.34 miles, again *backtracking* from the long range Route 16 Station.

CAMBRIDGE DISCOVERY PARK AT ACORN PARK

The Cambridge Discovery Park is located on a 26.5-acre site on Acorn Park Road in Cambridge, MA and involves the demolition of approximately 416,000 sf of existing office space in ten buildings, new construction of approximately 826,000 sf of office/research space in seven buildings, construction of two six-story structured parking garage buildings, and associated infrastructure and roadway improvements.

Based on a review of available documents related to this development proposal, Phase I

3 Peer Review Transportation – Green Line Extension Project Draft Environmental Impact Report, Environmental Assessment, and section 4(f) Statement (referred to as ‘the EA/DEIR’) – EOE #13886; Fay, Spofford & Thorndike; December 11, 2009.

of the project will result in an additional 72 new vehicle trips per day with distribution along the Route 2 east/west corridor. Using the assumption that the majority of these new trips will come primarily from Cambridge and Route 2, what few trips may be oriented to/from Massachusetts Avenue were not included directly in the additional volumes on the Massachusetts Avenue corridor but were accounted for in the background growth rate.

CVS

The proposed CVS is located at 837 Massachusetts Avenue. The existing site is currently comprised of an auto dealership, which closed in May 2008. This site will be redeveloped into one building containing the proposed CVS/Pharmacy and an outside ATM.

The traffic study⁴ prepared by GEOD Consulting, Inc. reviewed the traffic impacts from the proposed development. The CVS is expected to generate approximately 36 trips (21 entering and 15 exiting) during the weekday morning peak hour, 155 trips (56 entering and 59 exiting) during the weekday evening peak hour, and 102 trips (51 entering and 51 exiting) during the Saturday peak hour. At the site, based on the distribution of Massachusetts Avenue's traffic patterns and at the Route 60 intersection, 9-27 new vehicle trips will travel along the Massachusetts Avenue corridor, east of Route 60 with the rest of the traffic entering/exiting the site being vehicles that were already on the roadway (i.e. pass-by trips). The trips are then divided further at the Franklin Street/Massachusetts Avenue intersection. These trips would be included in the background growth rate. In addition, there are already two CVS Pharmacy locations in East Arlington. They are located at 23 Massachusetts Avenue and 319 Broadway, and these sites would likely receive greater use from East Arlington residents.

BELMONT UPLANDS

This proposed residential development is located off Acorn Park Drive in Belmont, MA and consists of a 299-unit residential apartment community on a 15.6± acre parcel. The land is bounded by Frontage Road to the north, Acorn Park Drive to the east, and areas of open and wooded space to the west and south. The project will also provide a total of 462 parking spaces (250 below ground and 212 at grade).

The traffic study⁵ prepared by Vanasse and Associates, Inc. reviewed the traffic impacts associated with the project. It was recognized that direct access to public transportation services is not currently afforded by way of the project site, therefore assumptions about the trips by alternative modes of transportation had to be made. Four percent of trips generated would consist of transit trips, one percent consisted of pedestrian/bicycle trips, and the remaining 95 percent consisted of automobile trips. The proposed project is expected to generate approximately 1,856 daily trips, with 144 trips (28 entering and 116 exiting) during the weekday morning peak hour and 174 trips (114 entering and 60 exiting) during the weekday evening peak hour.

As part of the traffic study⁴, the intersections of Massachusetts Avenue/Lake Street and

⁴ *Traffic Impact Study CVS Pharmacy*; GEOD Consulting, Inc.; November 17, 2008.

⁵ *Traffic Impact and Access Study Proposed Residential Development Belmont, MA*; Vanasse and Associates, Inc.; December 2005.

Massachusetts Avenue/Alewife Brook Parkway were analyzed. From the calculated trips generated, an additional 11 trips in the morning enter the Lake Street intersection and 14 in the evening. At the Alewife Brook Parkway intersection, an additional 16 trips enter in the morning peak period and 20 in the evening. These trips were added to the future No Build traffic networks.

CONCLUSION

All of the proposed developments that may potentially impact the traffic on the Massachusetts Avenue corridor have been reviewed. Many of them are included in the background growth rate. All the studies are referenced as such.

T:\QA-013 Mass Ave_Arlington\Documents\Reports\FDR\July 2010 FDR\TrafficMemo-new developments.doc

Memorandum

To: Rick Azzalina, PE

From: Gary L. Hebert, PE, PTOE

Subject: Massachusetts Avenue, Arlington, MA – East Arlington Concerned Citizens Committee 8/30/10 letter to Town of Arlington

Date: September 13, 2010

This memorandum provides responses to comments contained in the East Arlington Concerned Citizens Committee letter (the EACCC letter) dated August 30, 2010. This follows up on the very brief memo I prepared on July 26, 2010.

After reading this letter (refer to attached page 3 from the memo), it is clear that the authors of the letter did not understand the context of my remarks prior to drawing incorrect implications and conclusions about my December 11, 2009 peer review.

For the record, I fully concur with John Michalak's statement: "We anticipate any future changes along the Mass. Ave. Corridor to be minimal subsequent to the Green Line Extension Project." Furthermore, nothing that I wrote in connection with the Green Line Extension Project is contradictory to this conclusion.

In fact, a new Green Line Station at College Avenue is more likely to produce a *reduction in traffic* rather than an increase in traffic on Massachusetts Avenue).

Please refer to the attached map. Without doing any detailed analysis, there are two MBTA rail system V-shaped 'ridership catchment areas' at play here. First of all, the east end of the Massachusetts Avenue Corridor at Route 16 is 0.73 miles away from the existing Red Line Alewife Station, while 1.47 miles away via a *backtracking* maneuver to and from the College Avenue Station and 1.34 miles, again *backtracking* from the long range future Route 16 Station.

The future Green Line's potential drop-off/pick-up catchment area is primarily northwest from College Avenue and will have a minimal to no impact on Massachusetts Avenue. To summarize, anyone using Massachusetts Avenue would essentially be *back-tracking* to access either the proposed future Green Line Station at College Avenue or the potential Green Line Station at Mystic Valley Parkway (Route 16).

Concerns expressed in my Green Line DEIR peer review on behalf of the City of Medford assumed that drop-off/pick-up demands might overflow into the nearby neighborhood, or exceed the capacity of the proposed 7 drop-off/pick-up spaces, as an end-of-the-line station. The concern is, and remains, real, but nowhere in my memo do I imply that traffic volumes on *Massachusetts Avenue in East Arlington will increase due*

to potentially higher drop-off/pick-up activity than assumed in the DEIR. If folks using Massachusetts Avenue today are dropping people off at the Alewife Station, there is no reason to believe they will drive out of their way approximately twice as far via Massachusetts Avenue to drop off or pick up at the Green Line College Avenue Station with only 7 park-ride spaces.

The Green Line Extension is overall expected to reduce traffic in the sub-region it serves, and there are no reasons to dispute this critical finding. My peer review on behalf of the City of Medford was intended to draw attention to the potential for greater drop-off/pick-up demands than might be accommodated at the future College Avenue Station that is programmed for only 7 end-of-the-line spaces located on Boston Avenue with 40 projected drop-off/pick up trips per hour assumed out of 800 boardings during the AM peak hour and 600 alightings during the PM peak hour. Approximately 2,400 riders per day are expected at the College Avenue Station. While drop-off/pick demands may be up to three miles northwest from the station, my peer review comments were referring to drop-off riders up to three miles northwest in a ‘V’-shaped corridor that is *not served by the Red Line*, which is what the Massachusetts Avenue Corridor serves. This ‘V’-shaped corridor will have the highest proportion of the future drop-off/pick-up demands emanating closest to the future station to the northwest in Medford. The future College Avenue Green Line Station will have *no park-ride facilities* (unlike the Alewife Station with a 2,733-space garage), and 95% of its riders are expected to be walk-in/bike-in traffic with immediately local drop-off/pick-up demands, unlike Alewife Station, which largely has auto-oriented access.

The Red Line Station at Alewife is a much better choice for people using Massachusetts Avenue than the Green Line Stations at either College Avenue or (in the very long term) at Mystic Valley Parkway.

Please feel free to contact me if you have any questions.

QA-013
GH:gh

**C. MBTA'S ROUTE 16 GREEN LINE EXTENSION PROJECT & FST's
CONTRADICTION STATEMENTS**

The Green Line Extension Project's **end-of-the-line Route 16 Station** (just one mile from the Mass. Ave. / Rte 16 intersection) is anticipated to be constructed during this Project's Phase 2 development. This falls within the 20-year projection required by MassDOT in FST's 25% Response re-submittal.

In item 2 of his 4/6/10 memo to Kim Sloan-MassDOT, John Michalak of FST states:

"Based on the proposed improvements for the preferred alternative, Mass. Ave. does not provide a direct link to the proposed Green Line Extension. We anticipate any future volume changes along the Mass. Ave. Corridor to be minimal subsequent to the completion of the Green Line Extension Project."

However, FST implies a directly opposite finding in its consultant report for the Mayor of the City of Medford. In a 12-11-09 Memorandum from Gary Hebert (FST) to Ed Holingshead (FST) with the subject heading: Peer Review Transportation--Green Line Extension Project Draft Environmental Report, 'Assumed Catchment Area and Rate of Drop-off/Pick up' (Page 5), Mr. Hebert states (his italics are shown):

"The EA/DEIR projections of traffic in 2030 are based on the premise that all drop-off/pick-up activity will originate *within one mile of the new Green Line stations*. The validity of this assumption is particularly questionable for the end-of-the-line stations. When the College Avenue and finally the Route 16 Stations represent the end-of-the-line it seems unlikely that drop-off/pick-up activities will not be generated from distances in excess of one mile."

And, on Page 6, Mr. Hebert also states:

"If FTA anticipates riders bicycling up to three miles, it seems reasonable to anticipate drop-off/pick-up activities occurring within this same distance. Certainly it seems reasonable that these activities will involve populations located beyond one mile from stations."

FST's report to the Mayor contains additional statements which, assuming they're true, would indicate Mass. Avenue and East Arlington are well within the immediate traffic impact zone of this end-of-the-line Route 16 station. However, these FST statements are in complete opposition to FST's stance when writing on behalf of Town of Arlington interests.

Town of Arlington

Massachusetts Avenue Corridor Study

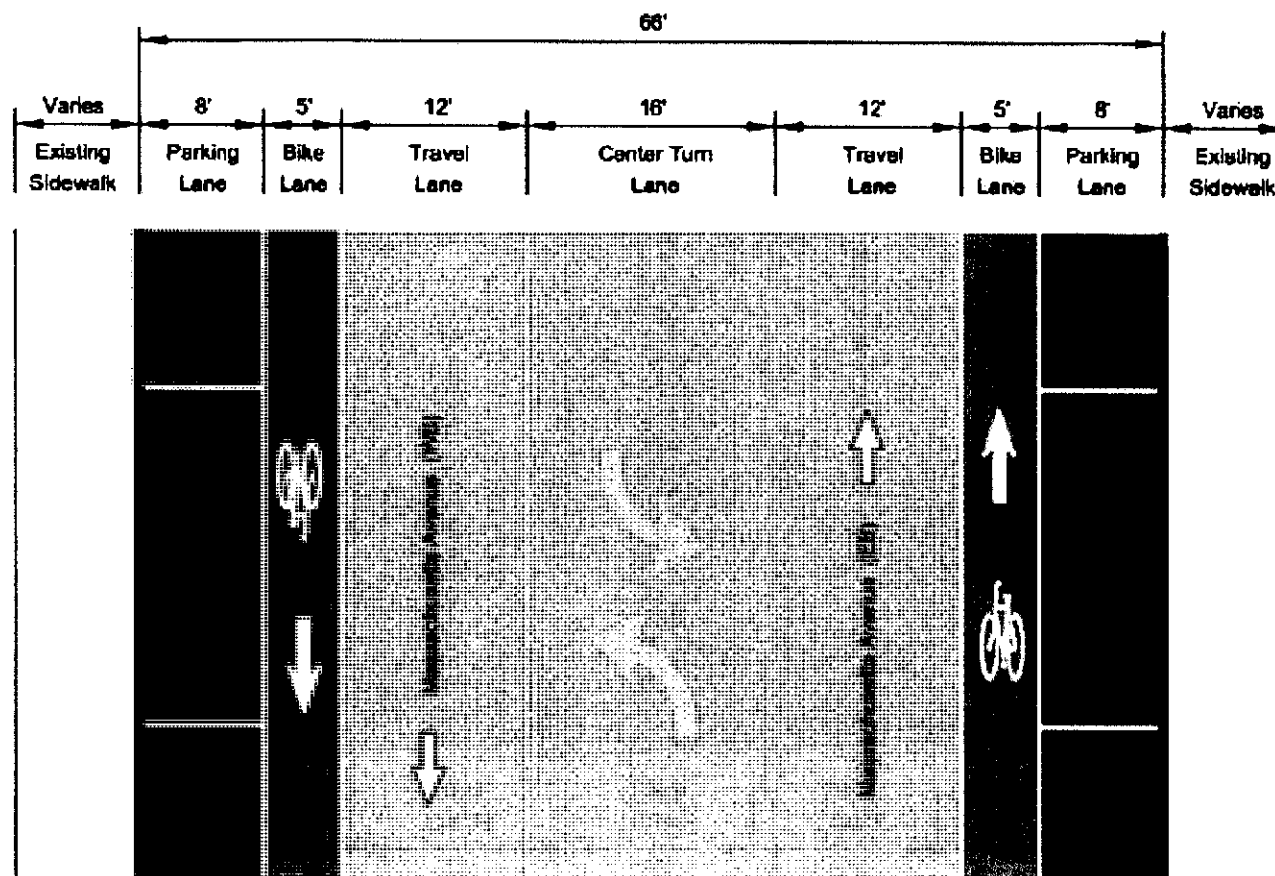
Franklin Street to Alewife Brook Parkway



The Louis Berger Group, Inc.

Study Objectives

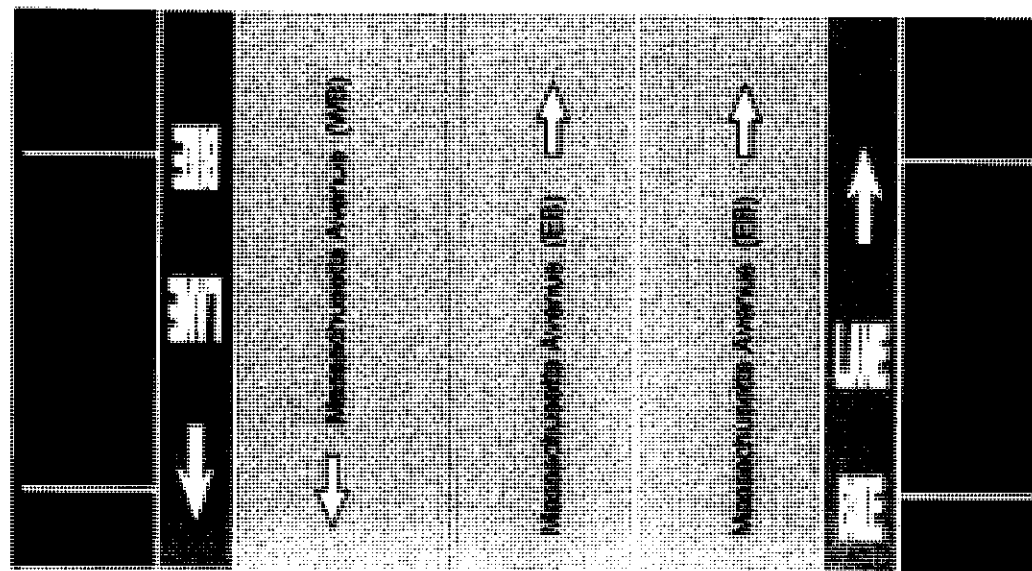
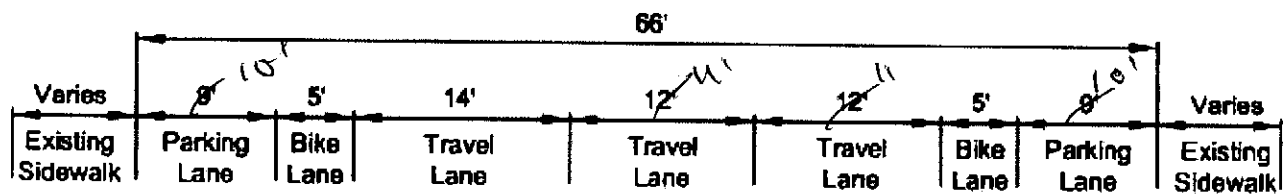
- Delineate Travel lanes
- Turn Lanes at Key Intersections
 - Linwood Street
 - Lake Street
 - Teel Street
 - Alewife Brook Parkway
- Enhance Pedestrian Safety
- Create Bicycle Lanes
- Low Cost Solutions



ALTERNATIVE 1

One Travel Lane in Each Direction with Center Turn Lane
Separate Bike Lane

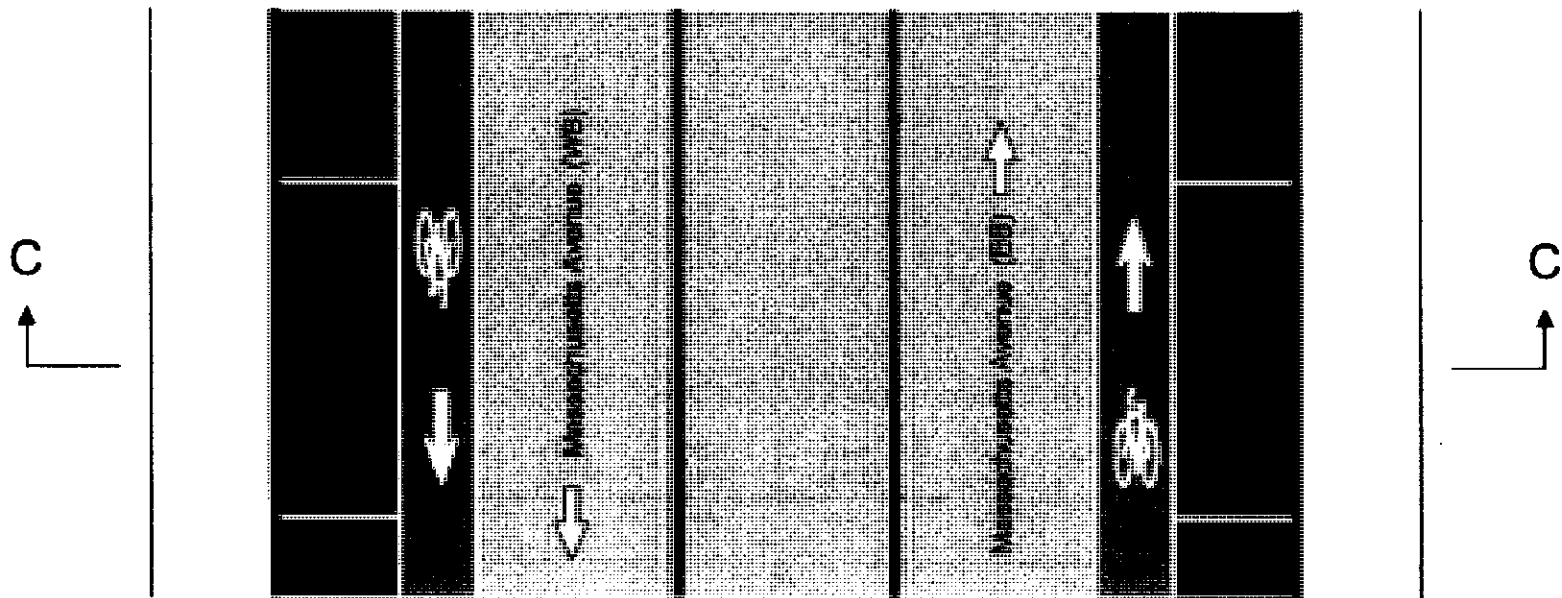
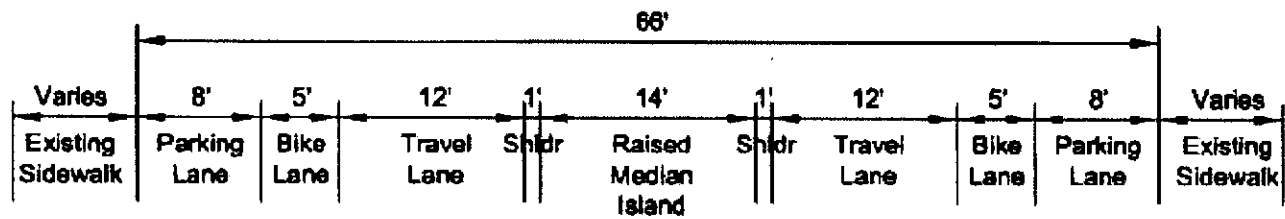
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✓ ALTERNATIVE 2

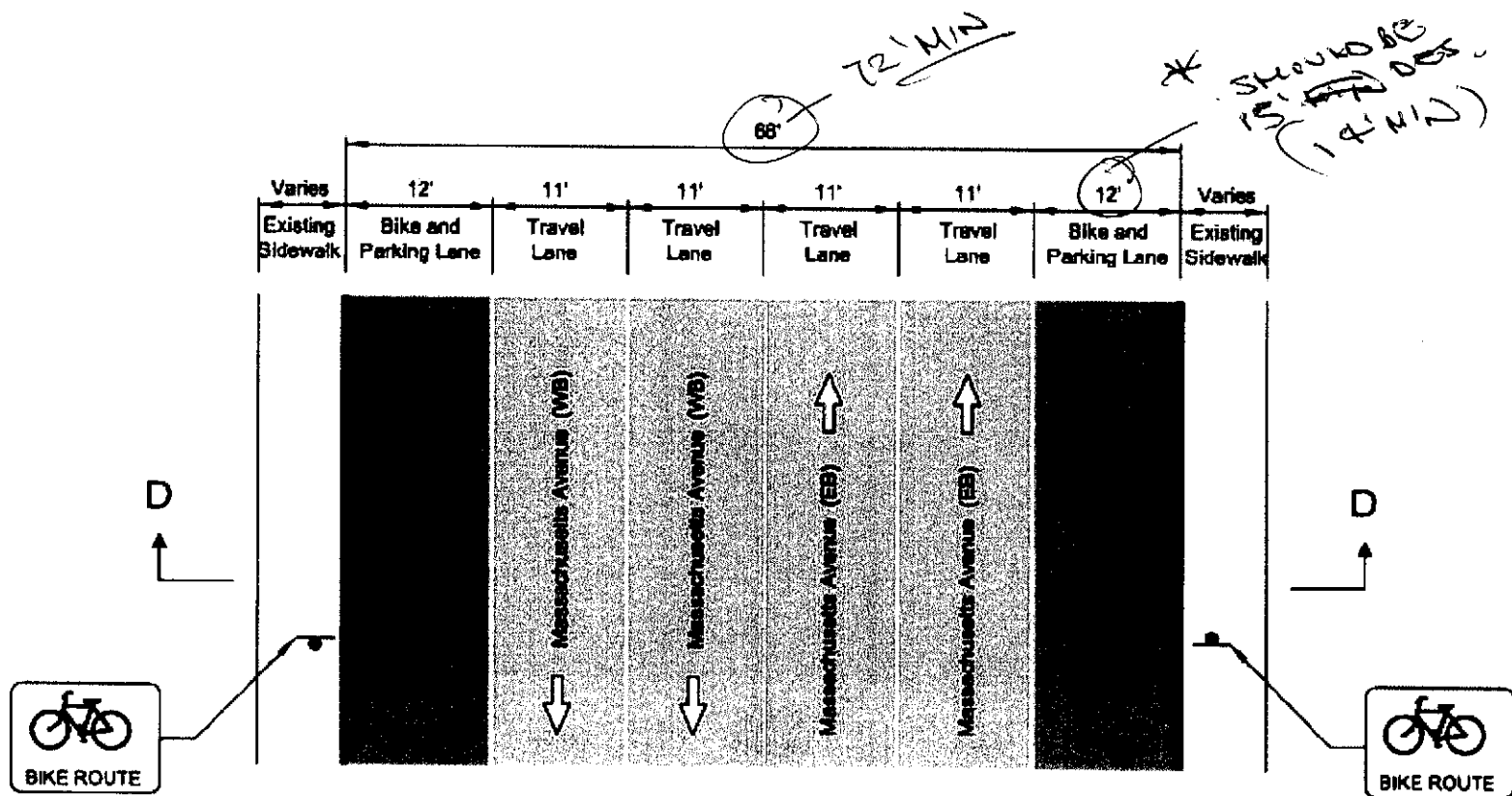
One Travel Lane Westbound / Two Travel Lanes Eastbound
Separate Bike Lane

Not to Scale



ALTERNATIVE 3

One Travel Lane in Each Direction
Raised Median Island w/ Separate Bike Lane



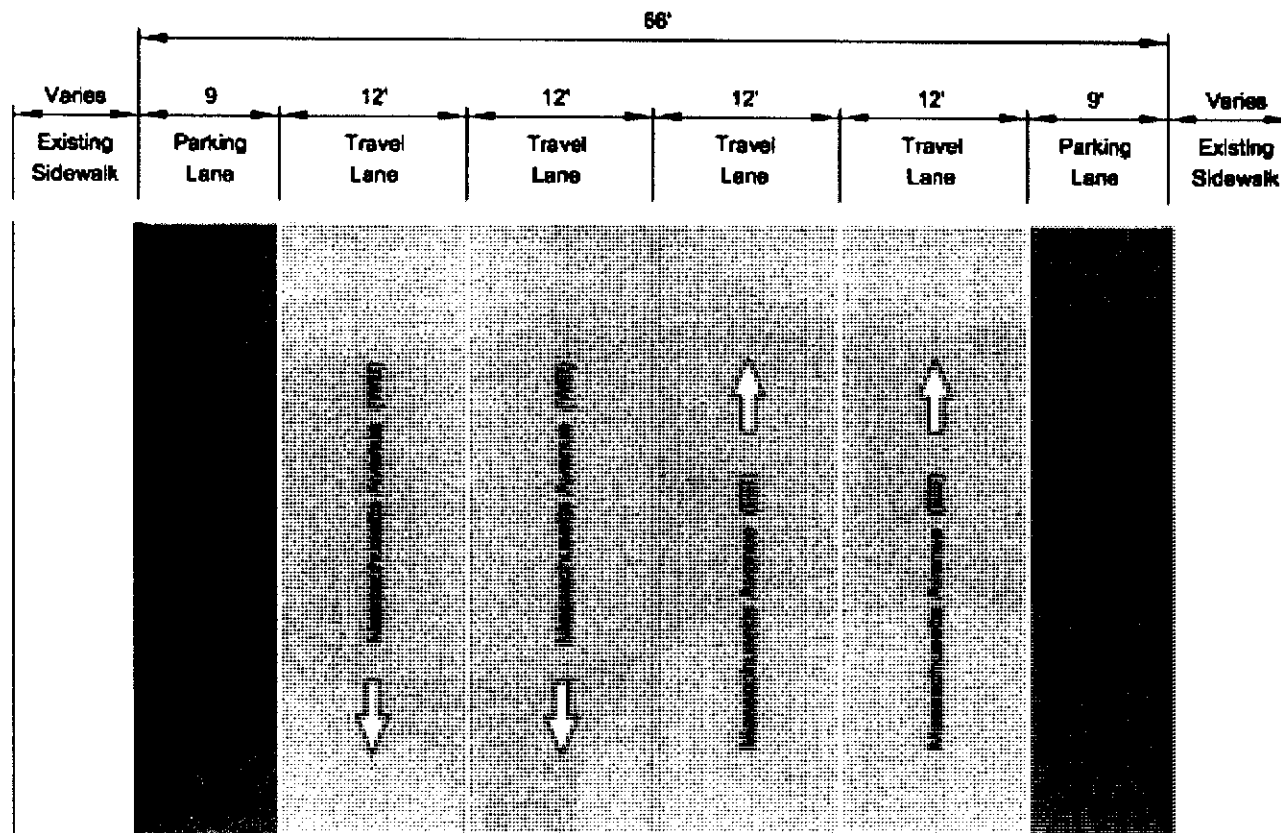
ALTERNATIVE 4

Roadway Widening w/ Two Travel Lanes in Each Direction
Shared Bike Lane and Parking Lane

Not to Scale

or
"DOOR ZONE"
issue

E
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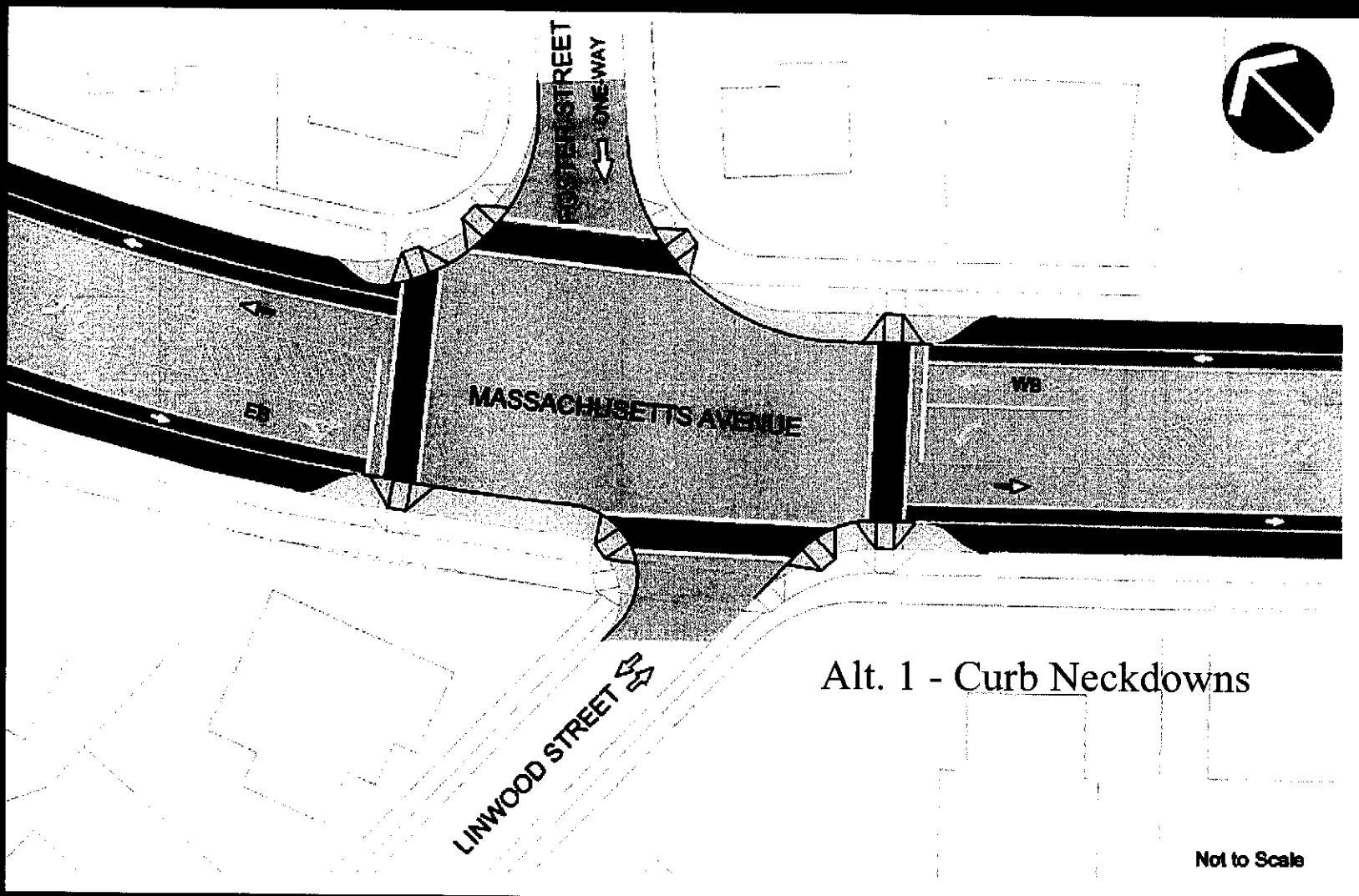


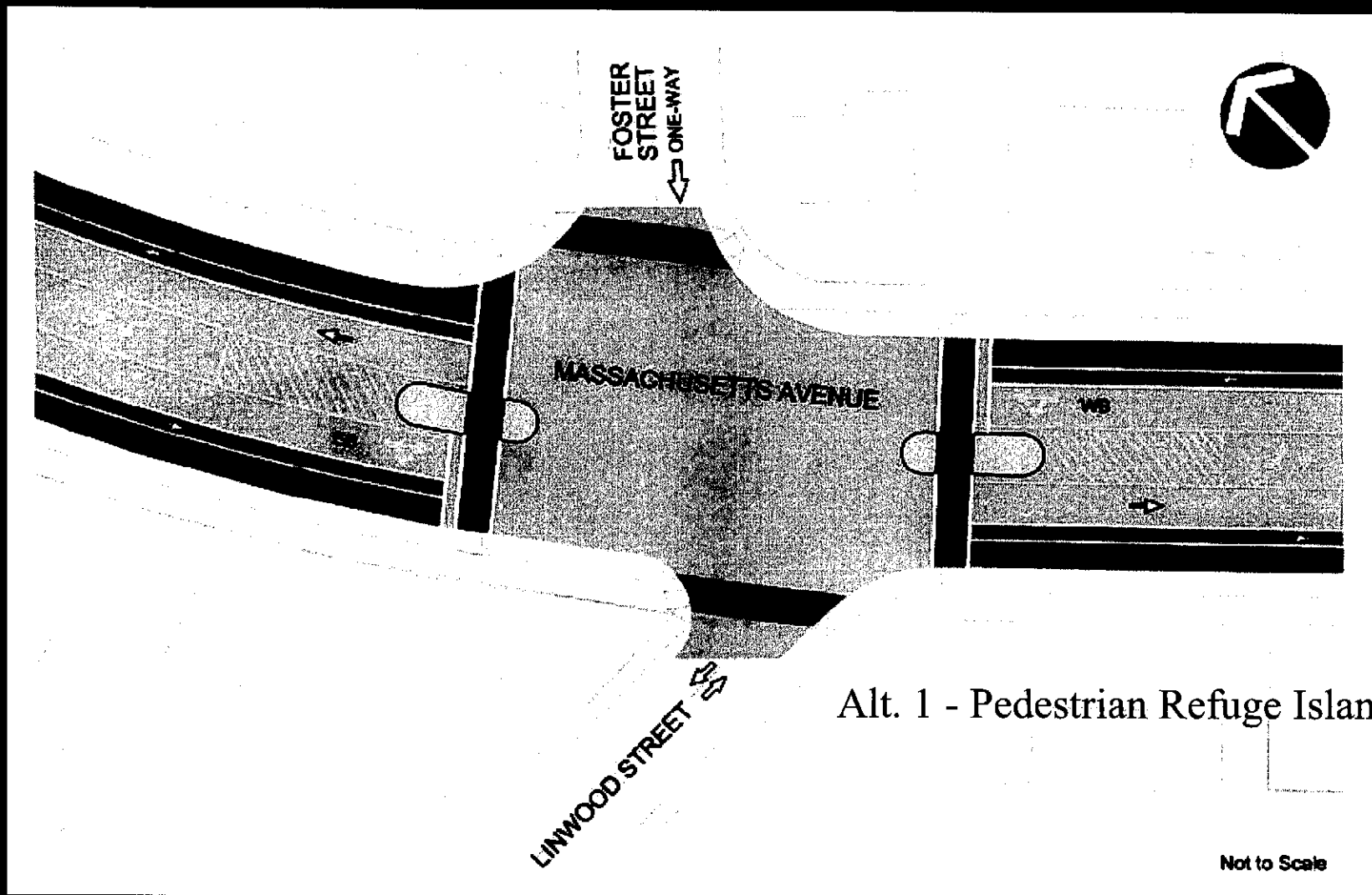
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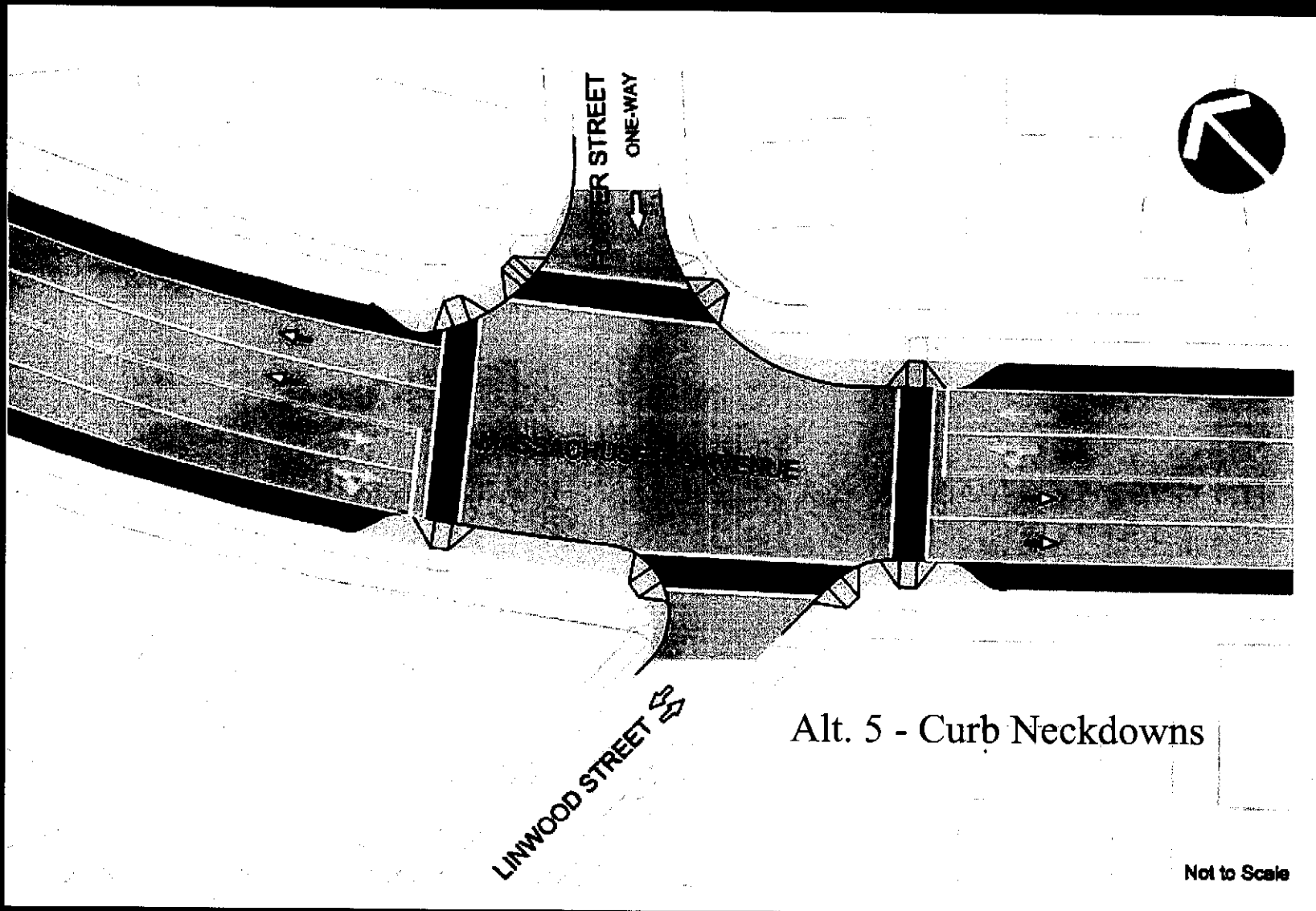
ALTERNATIVE 5

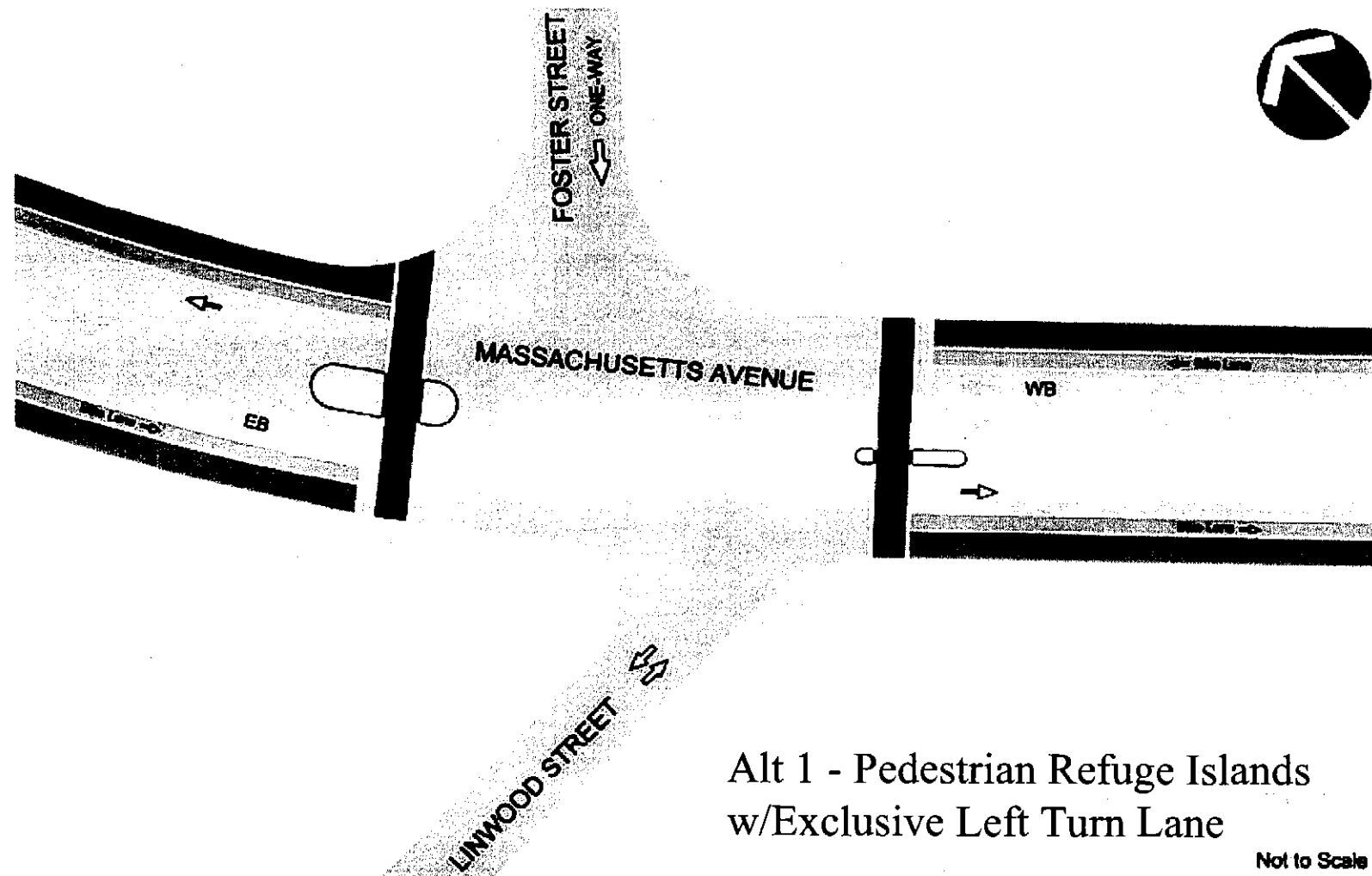
Two Travel Lanes in Each Direction
NO Bike Lane

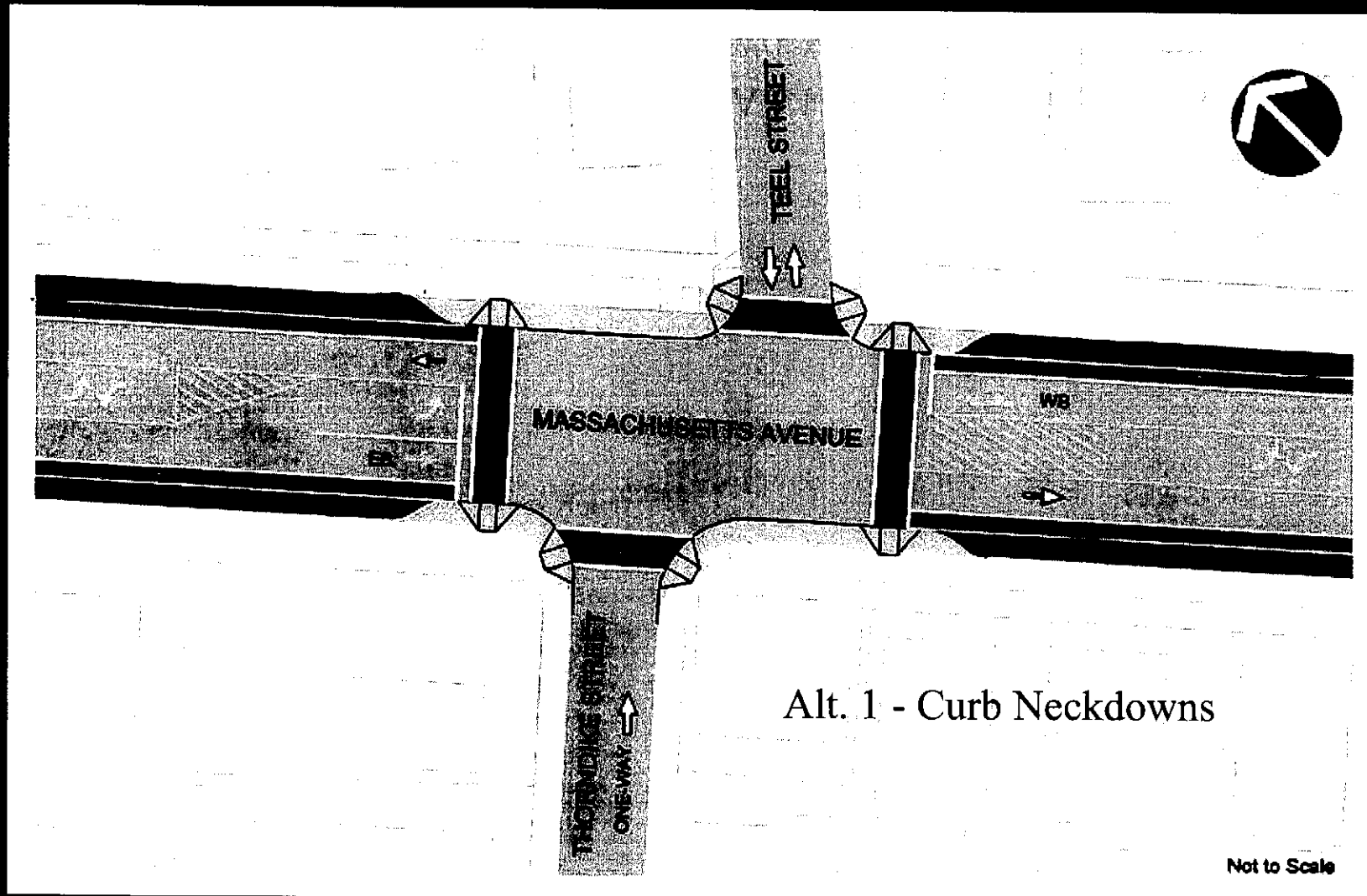
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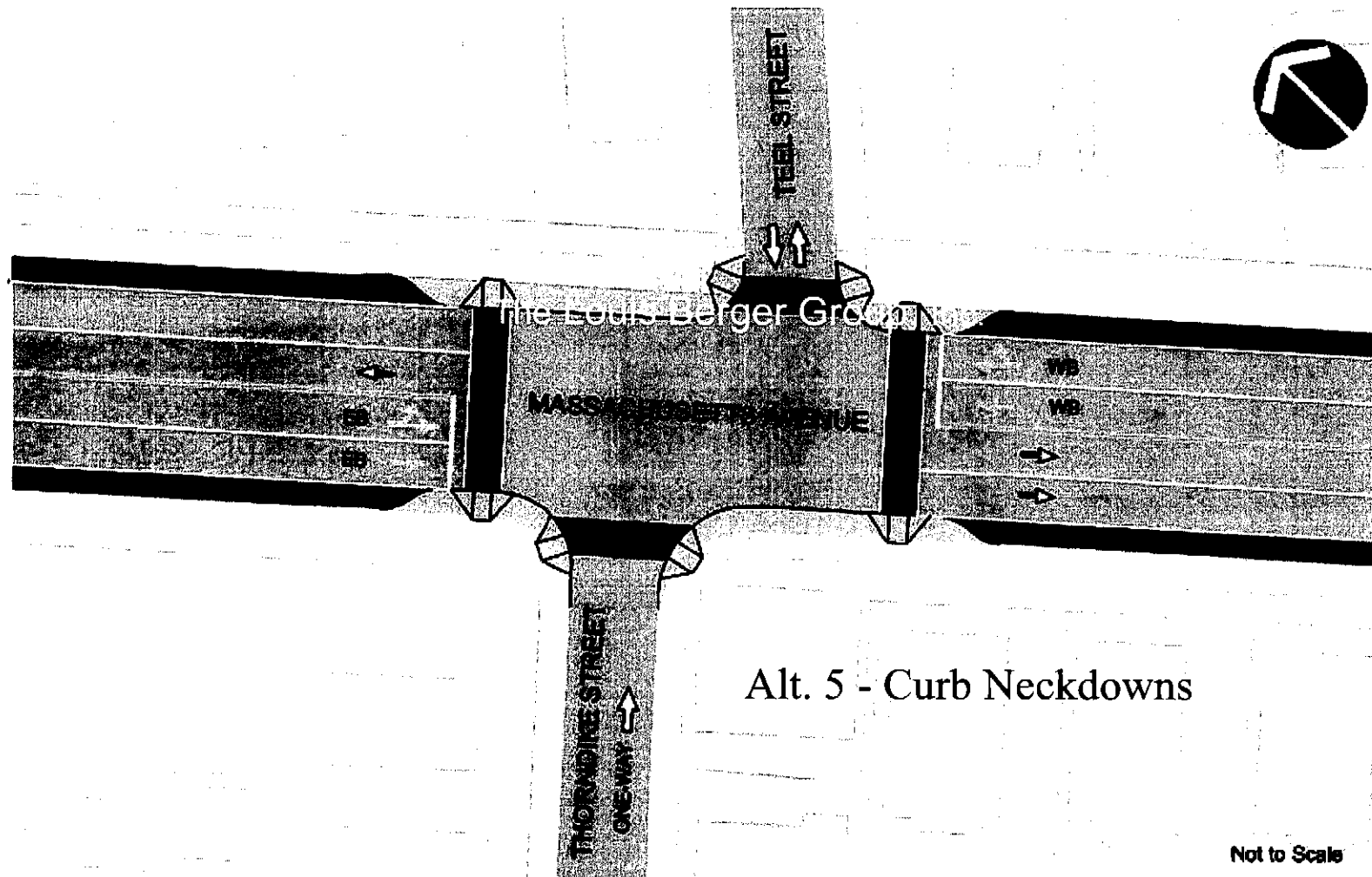


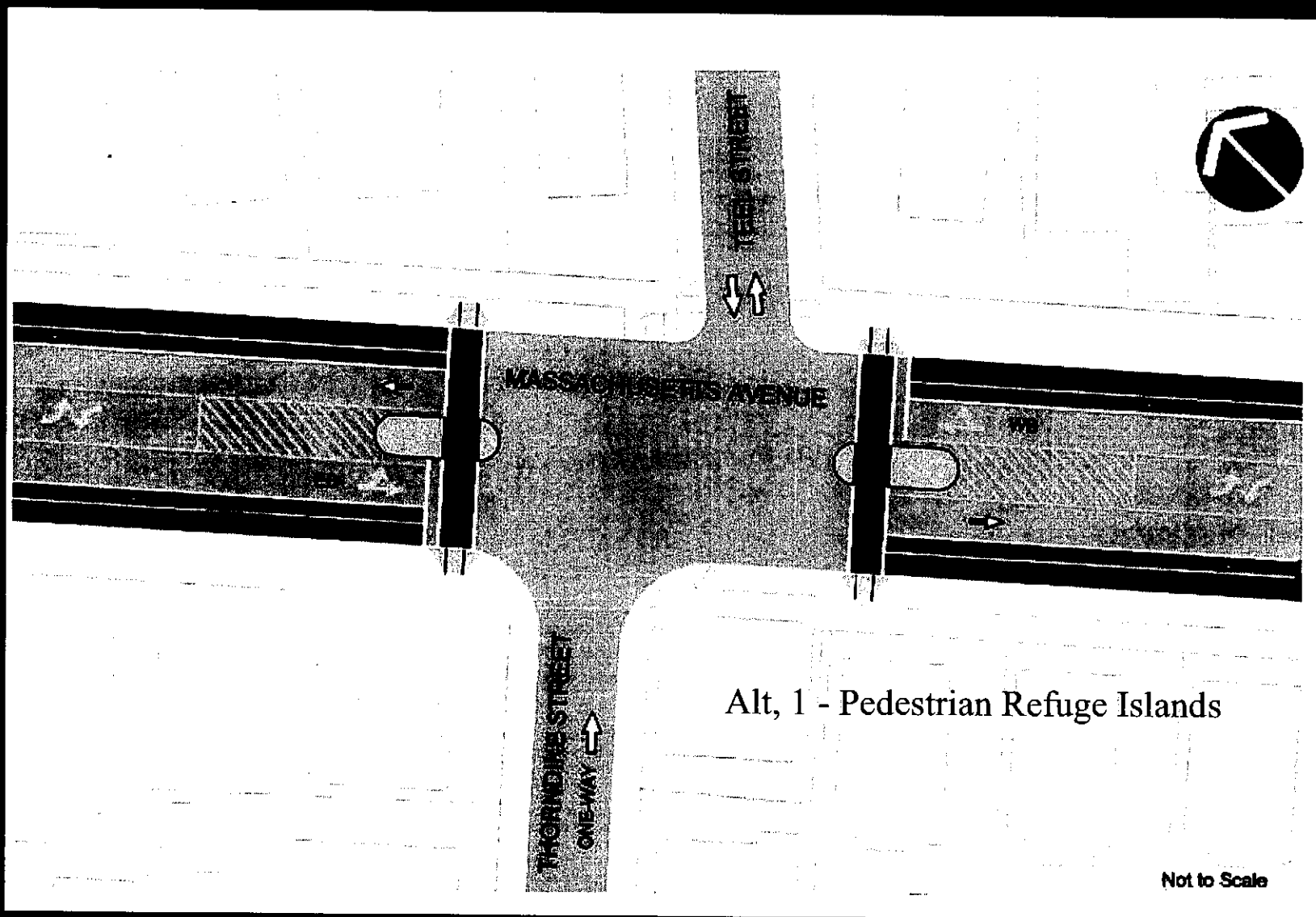


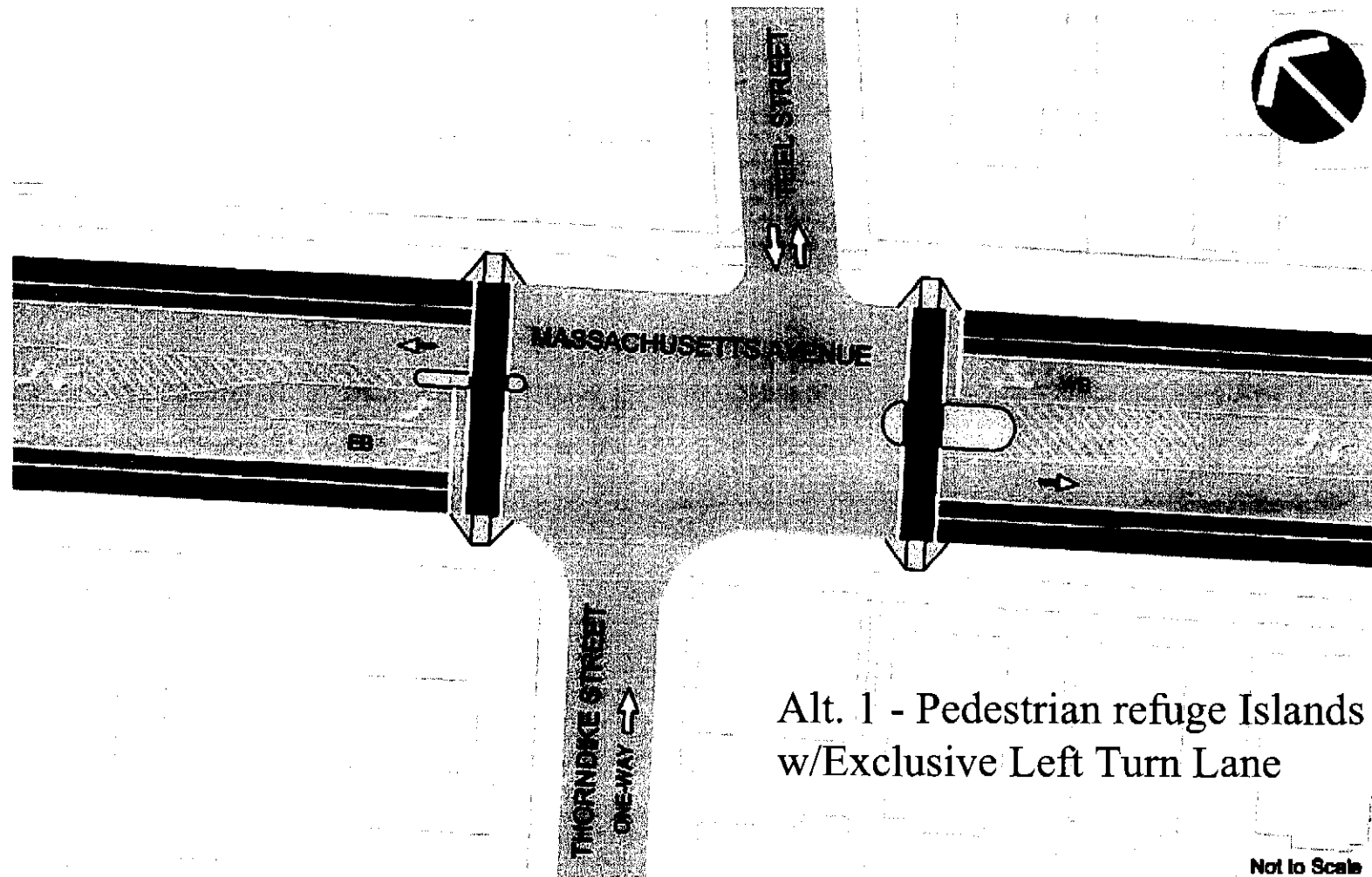






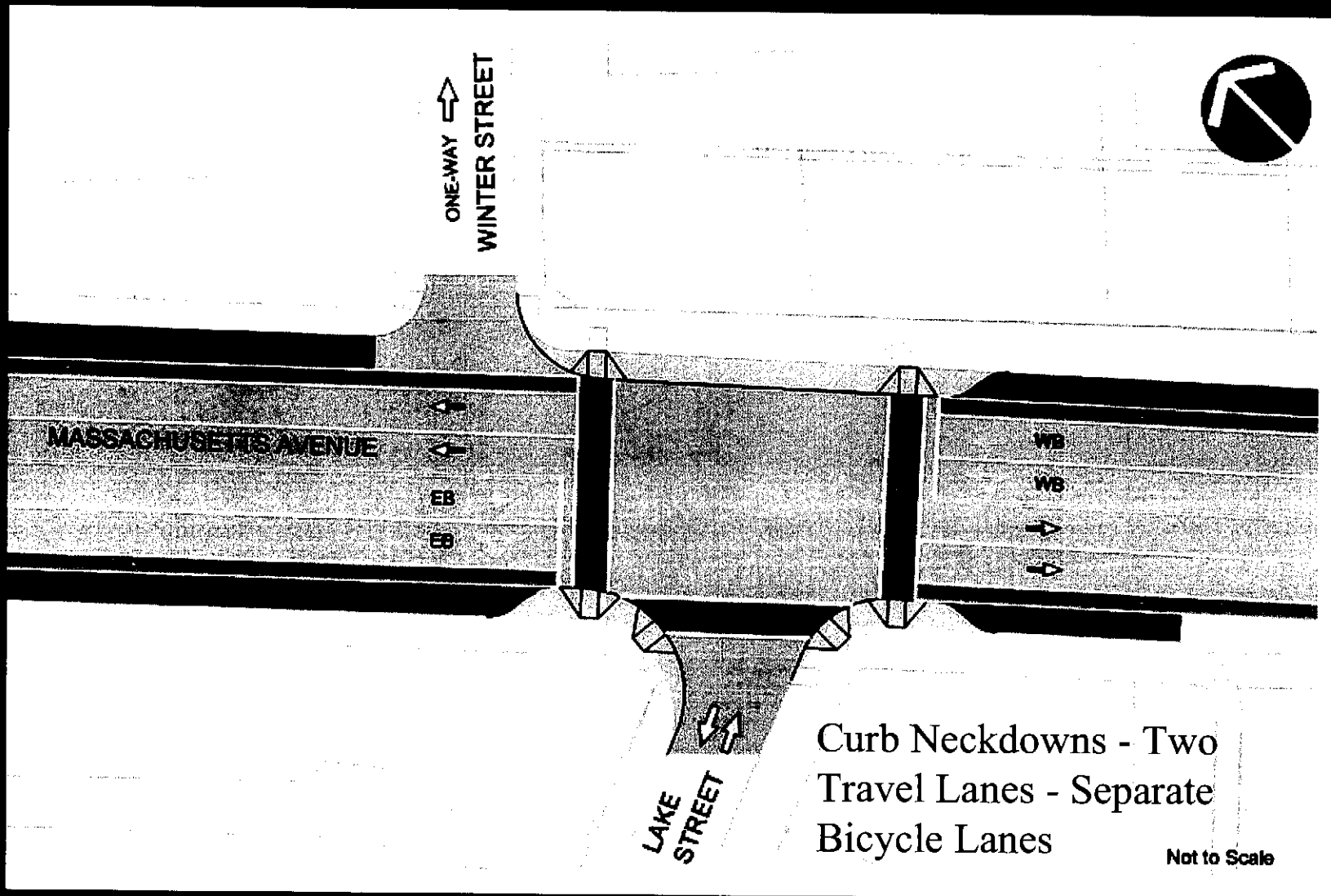


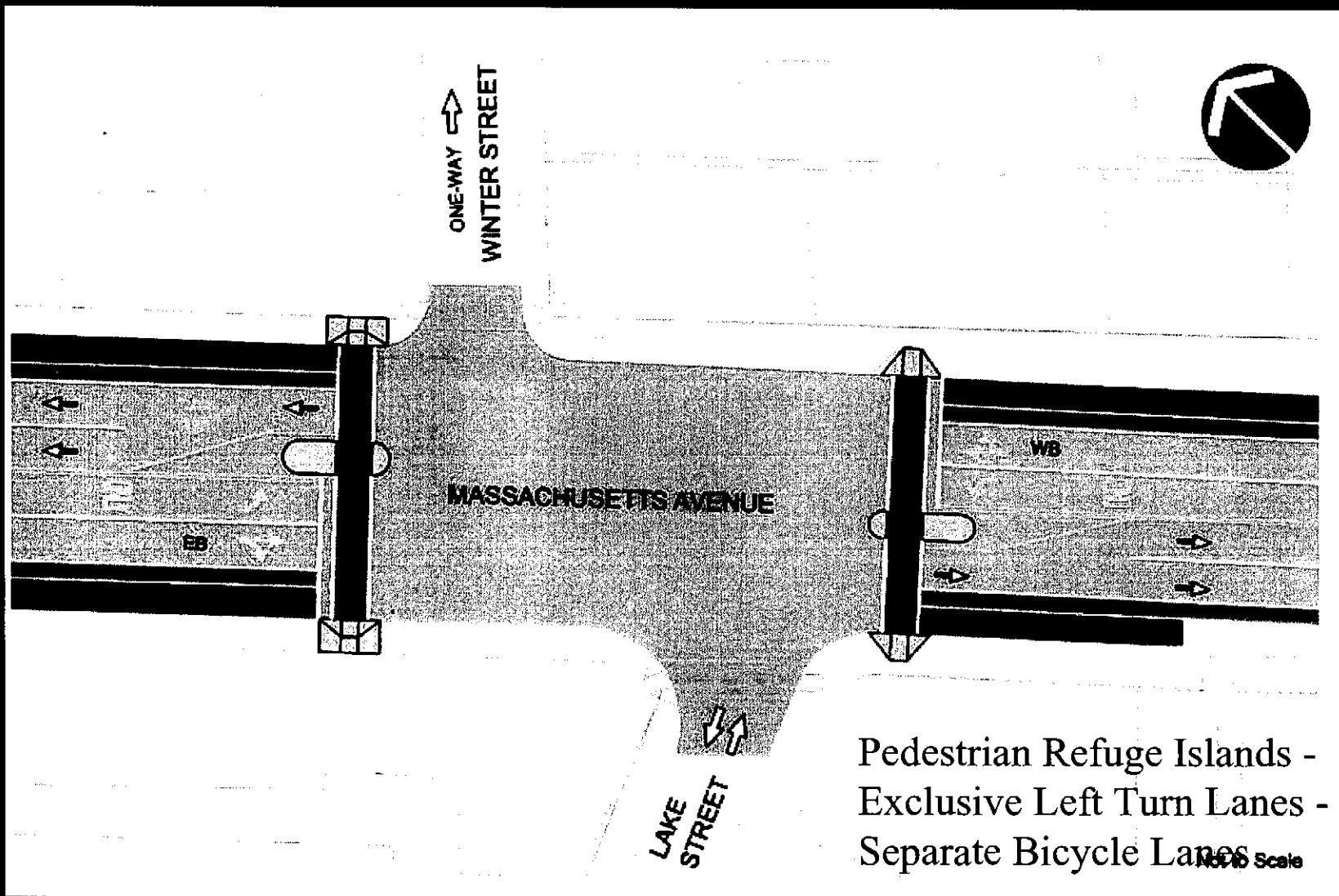




Alt. 1 - Pedestrian refuge Islands
w/Exclusive Left Turn Lane

Not to Scale







Vanasse Hangen Brustlin, Inc.

101 Walnut Street
P. O. Box 9151
Watertown, MA 02471-9151
617 924 1770
FAX 617 924 2286

Memorandum

To: Transportation Advisory Committee
Town of Arlington
Department of Public Works
730 Massachusetts Avenue
Arlington, Massachusetts 02476

Date: May 20, 2005

Project No.: 09145.00

From: Donald J. Cooke, P.E., P.T.O.E.
Joseph G. Quitter

Re: Traffic Justification Memorandum
Massachusetts Avenue Improvements
Arlington, Massachusetts

INTRODUCTION

Vanasse Hangen Brustlin, Inc. (VHB) has completed a preliminary review, evaluation and recommendations of improvements of the current transportation trends in terms of vehicular, pedestrian, bicyclist traffic, parking, and transit conditions along Massachusetts Avenue (Route 2A), between Mill Street and Alewife Brook Parkway in Arlington, Massachusetts. This effort is in support of the Town's desire to pursue State and/or Federal funding for implementation of needed transportation improvements along the corridor.

To facilitate our review and evaluation, VHB compiled existing traffic data and associated information including previously completed designs and studies, from the Town of Arlington, and recent crash data from the Massachusetts Highway Department (MassHighway). As part of the corridor study, VHB has recommended modifications to the current roadway cross section and traffic controls that are intended to improve the safety and mobility of the area users. This memorandum documents the results of an initial capacity and safety analysis along the corridor, and a review of the current roadway cross sectional elements, and identifies conceptual-level improvements for consideration, the anticipated construction cost of these measures.

EXISTING AND FUTURE CONDITIONS

Study Area

Massachusetts Avenue is the main east-west thoroughfare in the Town of Arlington, with a functional classification of Urban Principal Arterial. For this study, the transportation trends along the Massachusetts Avenue corridor were analyzed between Mill Street (near Arlington Center) and Alewife Brook Parkway (at the Cambridge border), approximately 1.6 miles.

Within the project limits, Massachusetts Avenue is approximately 65 feet (+/-) wide, with the exception at Lake Street between Oxford Street and Windsor Street where the corridor widens to 80 feet (+/-). There are typically two travel lanes in each direction with parallel parking on both sides of roadway, although in many areas lane definition is poor.

Sidewalks of varying width are provided along both sides of Massachusetts Avenue throughout the study area. Crosswalks are provided at all signalized intersections, at several unsignalized intersections, and at selected mid-block locations.

There are 45 intersecting streets along Massachusetts Avenue within the study limits. Of the total amount, six of the intersections are signalized (the Massachusetts Avenue intersection with Mill Street, Pleasant Street, Medford Street, Franklin Street, Lake Street, Thorndike Street, and Alewife Brook Parkway), 5 intersecting roadways are either used as a commuter cut through, or have been identified by the Town as trouble spots (Water Street, Tufts Street, Bates Road, Orvis Road, and Winter Street), and the balance of the roadways are entrances to residential neighborhood, that are local streets that are not used for cut through traffic at peak times of the day. For the purposes of this safety and capacity evaluation, the local street intersections were not analyzed for vehicular improvements.

Traffic Volumes

The Town of Arlington has provided information regarding traffic volumes for roadway segments and at specific intersections in the form of previous traffic studies along the Massachusetts Avenue corridor. A majority of this information was collected from previously conducted Massachusetts Avenue corridor studies dated December 11, 2001 and November 2002.

Although the traffic volumes were counted four years ago, this data can be considered current for the purposes of this preliminary study since the relatively stagnant economy and population growth over the last several years has resulted in negligible increases and, in some cases, decreases of traffic volumes throughout the region. Therefore, any growing of the traffic volumes data to develop present-day data would be overly conservative and was not completed. As project development continues, complete peak hour and daily traffic volumes should be collected for the entire corridor.

Based on the information included in previous studies and the accepted standard set by MassHighway for projecting traffic in this area, an annual growth rate of 1.0 percent (approximately 10.5 percent compounded over 10 years) was applied to the 2005 Existing volumes to develop the 2015 Future volumes. A summary of these traffic volumes is shown in Table 1.

Table 1
Roadway Segment Traffic Volume Summary

Massachusetts Avenue:	Period	Directional Distribution ^a	2005 Existing Volumes ^b		2015 Future Volumes ^c	
			Eastbound	Westbound	Eastbound	Westbound
From Pleasant St to Medford St/ Broadway St	Weekday Morning	51% WB	1,113	1,137	1,229	1,256
	Weekday Evening	53% EB	1,239	1,093	1,369	1,207
From Medford St / Broadway St to Linwood St	Weekday Morning	59% WB	887	1,303	980	1,439
	Weekday Evening	53% EB	967	856	1,068	946
From Linwood St to Lake St	Weekday Morning	63% EB	1,116	654	1,233	722
	Weekday Evening	53% EB	981	872	1,084	963
From Lake St to Thorndike St	Weekday Morning	57% EB	967	726	1,068	802
	Weekday Evening	51% WB	857	902	947	996
From Thorndike St to Alewife Brook Pkwy	Weekday Morning	60% EB	919	616	1,015	680
	Weekday Evening	54% WB	715	847	790	936

Source: Based on data from Massachusetts Avenue corridor studies conducted by the Louis Berger Group, Inc. dated December 11, 2001 and November 2002.

a directional distribution of peak period traffic

b peak period traffic volume, expressed in vehicles per hour

c 2005 volumes grown by 1.0 percent for ten years

EB = Eastbound; WB = Westbound

As shown in Table 1, approximately 1,560 to 2,330 vehicles per hour travel along Massachusetts Avenue during the weekday peak hours. The morning directional split is as high as 63% eastbound indicating the commuting nature of the AM peak hour. The directional split is relatively even

during the evening peak hour, ranging from 53 percent eastbound to 54 percent westbound along the corridor. This indicates that Massachusetts Avenue within the study area, while used by commuters, is not exclusively a commuter route during the evening peak period.

2002
According to recent traffic data collected at MassHighway permanent count station 4935, approximately 19,700 vehicles travel along Massachusetts Avenue south of Avon Place during the average day. This means approximately 10 percent of daily traffic travels along this segment of Massachusetts Avenue during the peak hours. The traffic count data compiled is contained in the Appendix.

It should also be noted that the traffic volumes traveling east bound on Massachusetts Ave drop 21% during the evening peak, and 20% during the morning peak period through the intersection of Mass Ave and Medford Street/Broadway. This is due to the high volume of traffic traveling along Broadway as an alternate route to Alewife Brook Parkway, and beyond.

Plans number 1 through 4 (out of 4) included herein present the morning (AM) and evening (PM) peak hour turning movement volumes at major corridor intersections for which data was available.

Vehicular Crash Summary

To identify potential vehicle crash trends in the project study area, vehicular crash data for intersections within the study area was obtained from MassHighway for the years 2000 through 2002, the most recent three-year history available and the Arlington Police Department from 2002 to 2005.

MassHighway Vehicle Crash History

A summary of the MassHighway vehicle crash history is presented in Table 2. The following intersections are above the MassHighway District 4 crash rate of 0.87 crashes per million entering vehicles (mev) for signalized intersections:

- Massachusetts Avenue at Mystic Street and Pleasant Street (1.12)
- Massachusetts Avenue at Alewife Brook Parkway (1.15)

As shown in Table 2, based on MassHighway crash data, the signalized intersections at Mystic Street/Pleasant Street and at Alewife Brook Parkway experienced 44 and 55 crashes over a three-year period. A high percentage (55 and 36 percent, respectively) of these crashes were rear end-type collisions, occurring during the typical work week during daylight hours, and on dry pavement, indicating that weather is not likely a contributing factor. Furthermore, a significant percentage of the crashes at the locations (34 and 22 percent, respectively) involved personal injuries. For these signalized intersections, the probable causes for rear-end collisions could include excessive speed and inadequate signal visibility and/or timing for the specific volume conditions¹.

The signalized intersections at Alewife Brook Parkway, Mill Street/Jason Street and at Lake Street also experienced a high percentage (40, 62 and 63 percent, respectively) of angle-type incidences. For these intersections, the probable causes for angle collisions include a large number of turning vehicles, excessive speed, and inadequate signal phasing and/or timing for the specific volume conditions.

The number of crashes at the unsignalized intersections that were part of this evaluation was

¹ Highway Safety Engineering Studies Procedural Guide; United States Department of Transportation (USDOT); Washington, DC; June 1981.

relatively low. In most cases, the majority of these crashes were angle-type collisions, occurring during the typical workweek and on dry pavement, indicating weather is not a likely contributing factor. Furthermore, a significant percentage of the crashes at Bates Road and at Grafton Street/Orvis Street (50 and 63 percent, respectively) involved personal injuries. Probable causes for this type of crash include a high approach speed and high volume approaches to this intersection.

There were 56 accidents that occur within the study corridor at the local street intersections with Mass Ave. In addition, there were 52 accidents along the corridor within the study area, and away from any intersecting streets. The data also identified 86 accidents along the entire length of Mass Ave that did not have a land mark identified. The types of accidents that were along the corridor were similar to those documented at the intersections: angle-type collisions, occurring during the typical workweek and on dry pavement, indicating weather is not a likely contributing factor. The raw data, and summary of these intersections are included in the appendix.

It should be noted that, based on MassHighway crash data, a statistically large percentage (88 percent) of the crashes that occurred during this three-year period happened during the first two years (2000 and 2001). Possibilities for this anomaly include fewer *reported* crashes as a result of changes to law enforcement/insurance reporting policies, recent roadway or intersection improvements, and/or, unfortunately, unreliable data for 2002.

Arlington Police Department Vehicle Crash History

In order to review crash history that involved pedestrians and bicyclists long the Massachusetts Avenue corridor, accident data was also collected from the Arlington Police Department from 2002 to 2005. As shown on the summary table and the raw data in the appendix, there were 66 crashes that occur on the corridor that involved either pedestrians or bicyclists. The accident data collected indicated that the accidents occurred at various locations along Mass Ave, during mostly dry conditions during daylight hours.

Table 2
Vehicular Crash Summary (2000-2002)

Signalized?	Year	MM St/Jason St		Water St		Mystic St/Pleasant St		Medford St		Franklin St		Massachusetts Avenue at:				Granton St/Otis St		Winter St		Lake St		Teal St/Thomdike St		Alewife Brook Pkwy		Total
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Tufts St	Bates Rd	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
Collision Type	2000	5	1	25	0	0	3	3	1	5	4	1	6	0	0	29	0	0	0	0	0	0	0	0	80	
	2001	11	3	17	1	1	3	3	1	2	2	1	8	0	0	19	2	0	0	8	0	2	0	70		
	2002	5	1	2	0	0	0	0	0	1	0	0	1	0	0	7	2	0	0	2	0	0	0	21		
	Total	21	5	44	1	1	6	6	2	8	8	2	16	0	0	55	2	0	0	16	2	2	0	171		
	Angle	13	3	12	0	0	2	2	1	2	4	4	1	10	0	0	22	0	0	0	0	0	0	0	70	
Severity	Head-on	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	Rear-end	2	0	24	1	1	3	3	0	5	0	0	3	0	0	20	0	0	3	0	1	0	0	60		
	Unknown	6	1	7	0	0	1	1	1	1	4	1	3	0	0	13	0	0	3	0	1	0	0	38		
	Total	21	5	44	1	1	6	6	2	8	8	2	16	0	0	55	2	0	0	16	2	2	0	171		
	Fatality	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Time of day	Hit and Run	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
	Injury	4	1	15	0	0	2	2	0	4	5	1	3	0	0	12	0	0	0	0	0	0	0	0	47	
	Property	17	4	28	1	1	4	4	0	4	2	2	13	0	0	41	0	0	13	0	2	0	0	119		
	Unknown	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
	Total	21	5	44	1	1	6	6	2	8	8	2	16	0	0	55	2	0	0	16	2	2	0	0	171	
Day of Week	7:00 AM - 9:00 AM	4	1	7	1	1	0	0	0	1	3	0	1	0	0	11	2	0	2	0	1	1	0	0	32	
	9:01 AM - 3:59 PM	8	4	21	0	0	4	4	0	4	2	1	8	0	0	24	0	0	8	0	0	0	0	0	78	
	4:00 PM - 6:00 PM	5	0	6	0	0	0	0	0	0	2	0	0	0	0	7	0	0	0	0	0	0	0	20		
	6:01 PM - 6:59 AM	4	0	10	0	0	2	2	0	3	1	1	8	0	0	13	0	0	0	0	1	0	0	53		
	Total	21	5	44	1	1	6	6	2	8	8	2	16	0	0	55	2	0	0	16	2	2	0	0	171	
Pavement Conditions	Monday-Friday	18	4	35	1	1	4	4	2	6	7	2	6	0	0	47	2	0	10	0	2	0	0	0	137	
	Saturday-Sunday	3	1	9	0	0	2	2	0	2	1	0	2	0	0	0	0	0	6	0	0	0	0	0	34	
	Total	21	5	44	1	1	6	6	2	8	8	2	8	0	0	55	2	0	16	2	2	0	0	171		
	Dry	16	5	37	0	0	4	4	1	5	4	1	5	0	0	41	2	0	9	0	2	0	0	0	126	
	Wet	3	0	4	1	1	0	0	0	3	4	0	3	0	0	12	0	0	4	0	0	0	0	0	33	
Mass Highway Crash Rate	Snow	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	Ice	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
	Unknown	1	0	1	0	0	1	1	1	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	7	
	Total	21	5	44	1	1	6	6	2	8	8	2	16	0	0	55	2	0	16	2	2	0	0	0	171	
	NA	NA	1.12	0.03	0.23	NA	NA	NA	NA	NA	0.23	NA	NA	NA	0.58	0.10	1.15	0.10	1.15	0.10	1.15	0.10	1.15	0.10	NA	

Source: Mass Highway vehicle crash data

**Massachusetts Avenue Improvement Project
Arlington, MA
Vehicle and Pedestrian/Bicycle Accidents 2002 - 2005
data from the Arlington Police Department**

1/12/2002	10:00:00 AM	Pedestrian	DRY	DAYLIGHT	CLOUDY	MASS AVE	
1/26/2002	5:12:00 PM	Bicyclist	DRY	Dark(Road Lit)	CLEAR	MASS AVE	swan
5/20/2002	12:30:00 PM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	MILL ST
5/22/2002	7:45:00 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	MILL ST
5/24/2002	4:54:00 PM	Pedestrian	DRY	Daylight	CLOUDY	MASS AVE	
5/30/2002	6:17:00 PM	Bicyclist	DRY	Daylight	CLEAR	MASS AVE	
7/1/2002	4:10:00 PM	Bicyclist	DRY	Daylight	CLEAR	MASS AVE	quinn
7/10/2002	5:10 PM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
7/11/2002	10:15 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
7/12/2002	6:00 PM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
9/5/2002	10:55 AM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	
9/24/2002	8:46 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
11/13/2002	3:27 PM	Pedestrian	wet	DAYLIGHT	rain	MASS AVE	
12/11/2002	11:45 AM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	
3/2/2003	6:35 PM	Pedestrian	wet	Dark(Road Lit)	CLOUDY	MASS AVE	
3/12/2003	3:17 PM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	
4/26/2003	5:57 PM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	park
5/6/2003	3:46 PM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	school
5/10/2003	10:20 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	meir
5/23/2003	7:28 PM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
9/22/2003	8:30 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
12/4/2003	5:06 PM	Pedestrian	DRY	Dark(Road Lit)	CLEAR	MASS AVE	
12/24/2003	5:45 PM	Pedestrian	wet	Dark(Road Lit)	rain	MASS AVE	MILL ST
2/28/2004	1:30 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
6/18/2004	11:33 AM	Pedestrian	wet	DAYLIGHT	rain	MASS AVE	
7/1/2004	11:33 AM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	
7/17/2004	12:50 PM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	
8/13/2004	4:10 PM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	masa
9/1/2004	9:14 AM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	
9/26/2004	4:30 PM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
10/4/2004	8:00 AM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	
10/7/2004	8:55 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
10/20/2004	6:10 PM	Bicyclist	DRY	Dark(Road Lit)	CLEAR	MASS AVE	
11/1/2004	6:00 PM	Pedestrian	DRY	Dark(Road Lit)	CLEAR	MASS AVE	
12/28/2004	1:22 PM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	
1/10/2005	1:50 PM	Pedestrian	wet	DAYLIGHT	CLEAR	MASS AVE	masa
1/11/2005	7:06 PM	Pedestrian	wet	Dark(Road Lit)	CLEAR	MASS AVE	mill
2/20/2005	2:15 PM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	park
3/30/2005	3:30 PM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	water
4/1/2005	3:30 PM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	meir
4/7/2005	4:00 PM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
4/20/2005	10:13 PM	Pedestrian	DRY	Dark(Road Lit)	CLOUDY	MASS AVE	plea
4/21/2005	11:00 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	meno
6/7/2005	9:45 AM	Bicyclist	DRY	DAYLIGHT	CLEAR	MASS AVE	
6/7/2005	3:12 PM	Pedestrian	DRY	DAYLIGHT	CLEAR	MASS AVE	

Source: Arlington Police Department

TRAFFIC OPERATIONS ANALYSIS

Level-of-Service Criteria

Level-of-service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure of the effect of a number of factors including roadway geometry, speed, travel delay, freedom to maneuver, and safety. Level-of-service provides an index to the operational qualities of a roadway segment or an intersection. Level-of-service designations range from A to F, with LOS "A" representing the best operating conditions and LOS F representing the worst operating conditions. For urban areas such as the Massachusetts Avenue corridor, LOS "D" or better are generally considered acceptable levels of service.

Level of Service Analysis

For an urban arterial such as Massachusetts Avenue, overall corridor capacity is defined and restricted by the major (signalized) intersections along its length. While the number of travel lanes in each direction (i.e., one or two) plays a role, the proximity of signalized intersections governs and travel lanes provided are more related to properly processing traffic demand at the signalized locations (i.e., approach and departure lane configurations). Therefore, to fully evaluate and establish corridor capacity and operating conditions, VHB preliminarily analyzed the capacity provided at key intersections.

To establish existing conditions, VHB conducted capacity analyses using the critical lane volume (CLV) method to determine the traffic capacity at six key study area signalized intersections during the weekday morning and evening peak hours using the 2005 existing, and 2015 future volumes. The future 2015 LOS is presented for the No-Build, or no improvement case. There are a total of eight (8) signalized intersections within the section of Massachusetts Avenue studied; however, traffic volumes were not available for the intersections at Mill Street.

Table 3 presents a summary of the capacity analyses for the six key study area intersections in the absence of any improvements. The capacity analyses worksheets are included in the Appendix.

Table 3
Intersection Capacity Analyses Summary

Location	Period	2005 Existing Volumes		2015 Future Volumes ^c	
		CLV ^a	LOS ^b	CLV	LOS
Massachusetts Avenue at Pleasant Street (Route 60)	Weekday Morning	1,353	E	1,495	F
	Weekday Evening	1,362	E	1,503	F
Massachusetts Avenue at Medford Street	Weekday Morning	878	B	970	B
	Weekday Evening	833	A	921	B
Massachusetts Avenue at Linwood St/Foster St	Weekday Morning	506	A	556	A
	Weekday Evening	528	A	581	A
Massachusetts Avenue at Lake Street	Weekday Morning	1,205	D	1,345	E
	Weekday Evening	1,112	C	1,243	E
Massachusetts Avenue at Thorndike St/Teel St	Weekday Morning	476	A	526	A
	Weekday Evening	466	A	514	A
Massachusetts Avenue at Alewife Brook Pkwy	Weekday Morning	1,388	F	1,422	F
	Weekday Evening	1,423	F	1,572	F

a critical lane value

b level of service

c No-Build (i.e., no improvement) condition

The analysis indicates that the intersections at Pleasant Street and at Alewife Brook Parkway currently operate at unacceptable levels of service (LOS "F") during both peak hours. Furthermore, it is anticipated that the Lake Street intersection will operate at LOS E or worse in the future if no improvements are in place. The other intersections analyzed operate at LOS B or better and are expected to operate at LOS C or better in 2015.

RECOMMENDED IMPROVEMENTS

Based on field observations, traffic volume research, vehicular crash analysis and intersection capacity analysis, VHB identified and evaluated possible opportunities for improvements intended to enhance the safety and mobility for all corridor users. It is envisioned that the recommendations from this study will be further evaluated, refined and detailed through design via the work of the Transportation Advisory Committee (TAC).

The following highlights the major opportunity areas for continued discussion and evaluation:

- Overall corridor cross section and cross sectional elements
- Bicycle accommodation
- Pedestrian accommodation
- Traffic signal safety and operations
- Overall corridor safety
- Aesthetic and urban design enhancements

VHB reviewed the corridor as a whole, and at specific locations to identify possible areas for modification and improvement. The existing and projected future poor operating conditions and safety history (see Tables 2 and 3) at the intersections of Pleasant Street, Lake Street and Alewife Brook Parkway lead to the conclusion that major changes which could limit capacity are not preferable at these locations. Any proposed improvements at these locations need to include the potential for enhancing both capacity and safety. However, significant capacity enhancements (i.e., major widening) are unlikely due to the constraints associated with current cross sectional elements. Improvements at these locations will most likely be implemented within the existing curb-to-curb roadway width and be limited to traffic signal (timing and phasing) modifications in an attempt to

optimize operations and safety. A detailed review of signal sequence, timing and equipment can be completed at these locations during further project development in an attempt to identify recommended traffic control upgrades.

The most significant opportunity identified for proposed change to the corridor is the potential reduction of the cross-section from four lanes to two lanes (one travel lane in each direction) east of the Medford Street/Broadway intersection, narrowing Massachusetts Avenue vehicular travel way from Franklin Street to Grafton Street (approximately one-half mile). This reduction in cross section would need to be expanded to accommodate current and future traffic demand at Lake Street, but then narrowed again to the east, between Marathon and Lafayette Streets (approximately 1750 feet). Massachusetts Avenue would be expanded, east of Lafayette Street, to accommodate the traffic demand at the Alewife Brook Parkway intersection (Refer to Sheets 1 through 4 attached). The potential reduction to a two-lane cross-section along these portions of Massachusetts Avenue is possible due to the significant amount (approximately 20 percent) of traffic turning to/from Broadway. The resulting lower corridor traffic volumes, thus a reduction of roadway capacity within these sections allow consideration of a reduced cross sectional width for the vehicular travel way that could be utilized for other modes of transportation (either bicycle or pedestrian), or improved streetscape along the corridor.

The detailed design of the reduced travel way cross section will need to consider the need to allow for traffic making left turns from Massachusetts Avenue to adjacent roadways, residents and businesses. The vehicular travel lanes must be a minimum of 16 feet for through traffic and emergency vehicles to pass around a stopped vehicle on Massachusetts Ave. Although the lane width will be designed with a wider cross section than typical (16 feet verses 12 feet), the overall pavement width will be reduced, thus making the pedestrian passage across Mass Ave shorter, improving pedestrian mobility and safety.

The conceptual improvements plans provided herein (plans 1 through 4) detail the potential reallocation of the roadway width gained in the reduced cross sectional areas east of Medford Street/Broadway, detailed above. For example, the possible introduction of a 4-5 foot bicycle lane. This lane, in conjunction with better bike accommodation at traffic signals (i.e., bicycle detection) and enhanced signage throughout the corridor offers an opportunity to provide a more inviting and safe environment for bicycle traffic.

The additional space gained by reducing the Massachusetts Avenue cross section in selected areas could be utilized in any number of ways besides (or in combination with) bicycle enhancements, including wider sidewalks, center medians, planting strips, etc. The benefits and costs of these options can be further evaluated during future project development. In any event, the re-evaluation of the Massachusetts Avenue corridor cross section affords an opportunity to better define the existing lane definition, which in many areas is currently poor, with extended sections of wide, undefined pavement provided.

A re-evaluation of the corridor also provides an opportunity to enhance the overall pedestrian environment. As part of project development, the current location of all pedestrian crosswalks will be evaluated to determine the most appropriate locations. Highlighted crosswalk markings and signage, use of alternate crosswalk materials, improved street lighting in crossing areas, and the proper use of "neckdowns" (narrowing the roadway by extending the curb at key intersections and mid-block locations) will be considered. The conceptual improvement plans provided (Refer to Sheets 1 through 4) detail a number of potential locations for the implementation of neckdowns for enhanced pedestrian movements. These neckdown areas will be designed to improve sight lines and visibility of crossing pedestrians, shorten crossing distances, and serve as a traffic calming technique to slow traffic in areas of pedestrian activity. The neckdowns also have the added benefit of providing new space to be considered for possible aesthetic enhancements.

During future project development a complete evaluation of pedestrian phasing, signal indications and signage should also be undertaken at all signalized locations. An overall theme to these, as well as other alternative actions, is the need to continue to consider the effects of proposed corridor modifications on vehicle, pedestrian and bicycle safety.

Tied to some of the opportunities discussed above, but also worth discussion as a stand alone topic is the upgrade and potential coordination of several traffic signal systems. This is important because the signalized intersections govern the flow of traffic along Massachusetts Avenue. In a few cases they are closely spaced, but do not facilitate acceptable traffic progression through the corridor. The upgrade and coordination of these traffic signal systems could improve the overall operation along the corridor. Existing traffic signal phasing and lane configuration also needs to be reviewed, with sensitivity towards addressing the high accident experience at many of these locations.

All proposed improvements and modifications will need to consider potential impacts to on-street parking and other related business activities (i.e., loading/unloading), as well as transit stops on the corridor. The continued maintenance of an adequate level of on-street parking is critical to overall community acceptance of proposed improvements.

Table 4 presents a brief summary of the potential improvement opportunities along the corridor.

Table 4
Recommended Transportation Improvements Summary

Massachusetts Avenue:	Existing Conditions	Proposed Improvements
From Mill St to Franklin St (Arlington Center)	Two lanes per direction Several unprotected sidewalks On street parking	1. Maintain existing two lanes per direction with additional turning lanes at intersections as necessary 2. Upgrade and coordinate traffic signals 3. Provide neck-downs at unsignalized crosswalks 4. Maintain existing parking
From Franklin St to Grafton St	Two lanes per direction Several unprotected sidewalks On street parking	1. Narrow to one travel lane per direction with additional turning lanes as necessary 2. Upgrade traffic signals 3. Provide neck-downs at unsignalized crosswalks 4. Maintain existing parking 5. Create a five-foot marked bicycle lane 6. Widen existing sidewalks or provide planting strip, where possible
From Grafton St to Marathon St (Lake Street District)	Two lanes per direction Several unprotected sidewalks On street parking	1. Transition back to two lanes per direction with additional turning lanes at intersections as necessary 2. Upgrade traffic signals 3. Provide neck-downs at unsignalized crosswalks 4. Maintain existing parking 5. Continue the bicycle lane on the south side of Massachusetts Avenue only
From Marathon St to Alewife Brook Pkwy	Two lanes per direction Several unprotected sidewalks On street parking	1. Narrow to one travel lane per direction 2. Upgrade traffic signals 3. Provide neck-downs at unsignalized crosswalks 4. Maintain existing parking 5. Bicycle lane provided on both north and south side of Massachusetts Avenue

In order to assess the impact of the conceptual level improvements detailed herein and on Sheets 1 through 4 attached, VHB evaluated intersection operations. Table 5 presents a summary of the existing, and future (with and without a reduced cross section) operations at the two locations along the Massachusetts Avenue corridor affected by the proposed travel way reduction. All other locations along the corridor are not within the location of the proposed reduction.

Table 5
Intersection Capacity Analyses Summary

Location	Period	2005 Existing Volumes		2015 Future Volumes ^c		2015 Future Volumes ^d	
		CLV ^a	LOS ^b	CLV	LOS	CLV	LOS
Massachusetts Avenue at Linwood St/Foster St	Weekday Morning	506	A	556	A	1,014	C
	Weekday Evening	528	A	581	A	1,115	C
Massachusetts Avenue at Thorndike St/Teel St	Weekday Morning	463	A	526	A	1,005	C
	Weekday Evening	452	A	514	A	981	B

a critical lane value

b level of service

c No-Build (i.e., no improvement) condition

d With Improvements (i.e., reduced cross section)

As can be seen by the table, although the peak hour LOS is expected to drop at Linwood/Foster and Thorndike/Teel Streets, the anticipated future 2015 LOS is no worse than a very acceptable LOS "C". Based on this analysis, it is assumed that the cross sectional width for the sections along Massachusetts Avenue, east of Broadway (detailed above), can be reduced without significant impact to vehicle operations.

CONCLUSION

VHB has conducted an assessment of the roadway traffic capacity and safety along the 1.6 mile section of Massachusetts Avenue corridor between Mill Street and Alewife Brook Parkway. Based on this evaluation, VHB has identified several improvement opportunities to the current roadway and intersection features that are intended to enhance the safety and mobility for all area users. It is envisioned that the recommendations from this study will be evaluated and progressed through further design and construction via the work of TAC.

The order of magnitude construction cost estimate of these improvements is approximately \$2,420,000. The projected costs are based on the proposed typical sections shown on the conceptual improvement plans (Sheets 1 through 4) and do not include costs associated with design, potential right-of-way acquisition, streetscape enhancements, including landscaping, permitting or police services. The conceptual improvement plan and cost estimate worksheets are provided in the Appendix.

A Comparative Analysis of Bicycle Lanes Versus Wide Curb Lanes:

Final Report

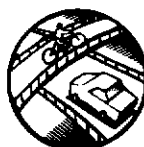
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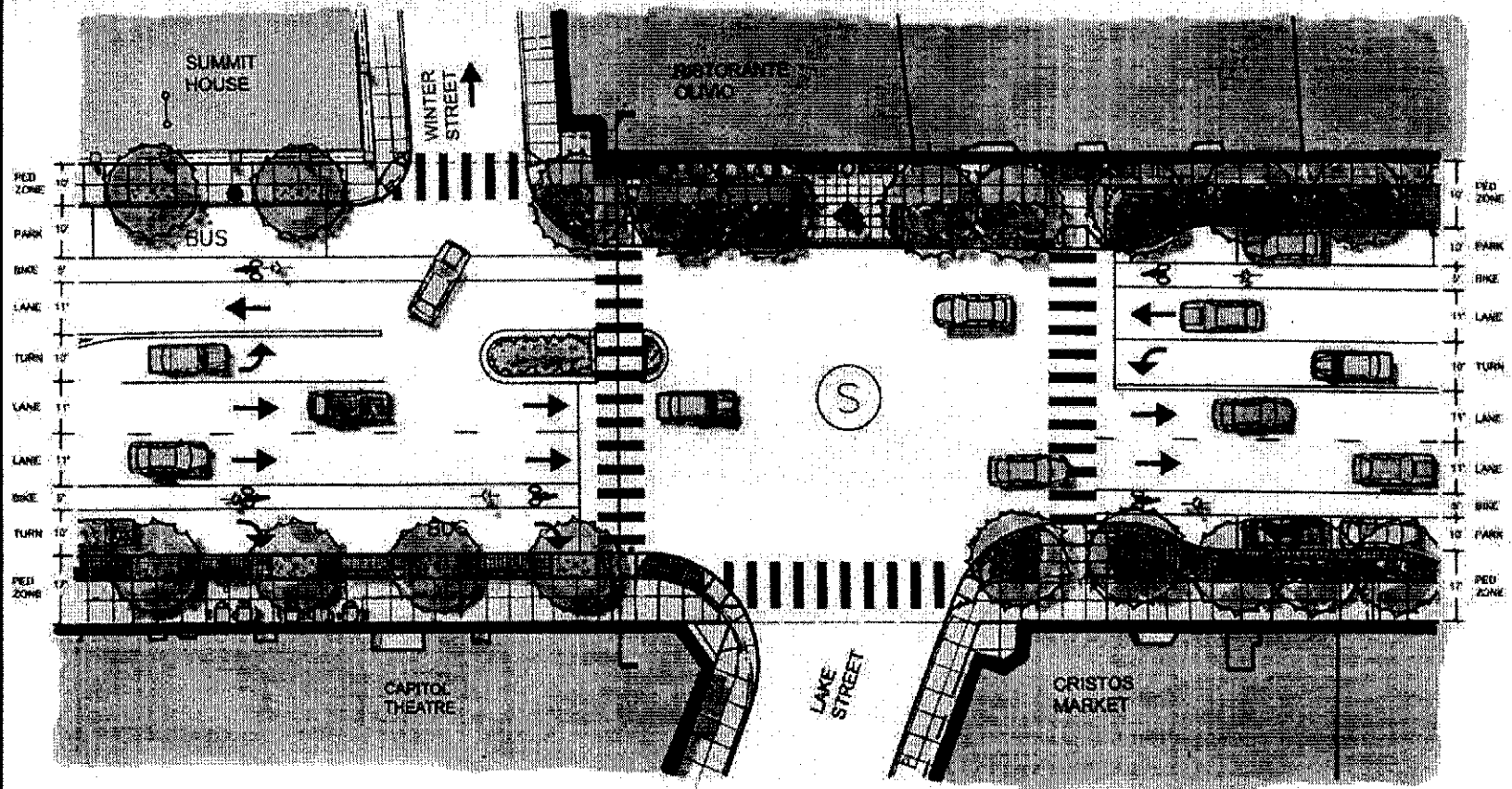
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16. Abstract <p>This report is a comparative analysis of bicycle lanes (BLs) versus wide curb lanes (WCLs). The primary analysis was based on videotapes of almost 4,600 bicyclists (2,700 riding in BLs and 1,900 in WCLs) in the cities of Santa Barbara, CA, Gainesville, FL, and Austin, TX, as the bicyclists approached and rode through eight BL and eight WCL intersections with varying speed and traffic conditions. The intent was to videotape bicyclists who regularly ride in traffic. The videotapes were coded to learn about operational characteristics (e.g., intersection approach position and subsequent maneuvers) and conflicts with motor vehicles, other bicycles, or pedestrians. A conflict was defined as an interaction between a bicycle and motor vehicle, pedestrian, or other bicycle such that at least one of the parties had to change speed or direction to avoid the other. Both bicyclist and motorist maneuvers in conflict situations were coded and analyzed. This covered maneuvers such as a bicyclist moving incorrectly from the bicycle lane into the traffic lane prior to making a left turn, or conversely, a motor vehicle passing a bicyclist and then abruptly turning right across its path. Bicyclist experience data were also collected separately from the videotaping at each of the 16 data collection sites in each city through use of a short oral survey. Slightly more than 2,900 surveys were completed. These data were analyzed to learn about the age, riding habits, and experience levels of the bicyclists riding through these intersections. Bicycle-motor vehicle crash data were also analyzed to determine if there were parallels to the videotape data.</p> <p>In addition to this final report, there is a separate report (FHWA-RD-99-035) containing a synopsis of the key findings of the final report and recommended countermeasures, as well as a guidebook (FHWA-RD-99-036) about innovative bicycle accommodations.</p>			
17. Key Words: Bicycle lane, wide curb lane, bicycle operations, bicycle maneuvers, conflicts		18. Distribution Statement No restrictions. This document is available to the public through the National Technical Information Service, Springfield, Virginia 22161	
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Lake Street & Winter Street

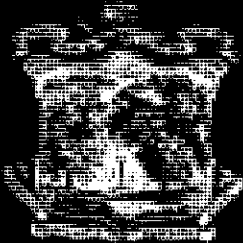


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